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INTERNATIONAL ABSTRACT OF SURGERY

JULY, 1933

ABSTRACTS OF CURRENT LITERATURE SURGERY OF THE HEAD AND NECK

HEAD

Lucchese, G: Experimental Studies on Tubercu losis of the Salivary Glands (Ricerche sperimentali sulla tubercolosi delle glandole salivari) Clis chir 1032 viil 1366.

The author produced tuberculous of the parotted gland in rabbits by inspecting a broth culture of human tubercle bacilli. In one group of rabbits the injection was made directly into the gland and in another into the carotid artery. The lesions produced in the two groups were fundamentally the same. They consisted essentially of a marked histocyte reaction with the presence of tubercles giant cells and tubercle bacilli an abundant connective tissue infiltration which destroyed and replaced the lobuls of the glands a tendency toward cearticial sciencis and, occasionally cascation. The morbid process occurred most frequently in the immediate vicinity of the glanduals tubules and exerctory duest process occurred to a presidence of the process occurred to a presidence of the process occurred to the presidence of the presidence of the presidence of the presidence of the process occurred to the presidence of the process occurred to the presidence of the presidence of the process occurred to the presidence of the process occurred

The author's findings are not contrary to the ac cepted theory of an ascending or canalicular infection as the same lealous were produced when these paths of infection were definitely excluded. Lucchese is of the opinion that in man infection of the gland by tubercle bacilli takes place usually through the hood stream and occationally through the lymph atream, but that the spread of the infection through the salivary gland occurs by way of the lymphatics. Every E. L. Expy M. D.

EYI

Blair, V P Repairs and Adjustments of the Eyelids. J Am M Att., 1932 xxix 2171

To restore function or correct the appearance of a damaged cyclid not only the anatomy and contour of the lid must be considered but also the structures that give it support and those that are in continuity A neighboring distortion can damage or hamper the movements of an intrinsically normal lid or if un recognized can compromise the result of operation

To determine before operation the amount of tissue that will be needed it is necessary to measure the defect add to this measurement the estimated retraction of all remaining normal ti sue when it is released and allowed to return to its natural released and allowed to return to its natural relationships and allow for contraction after the repair For a split skin graft applied to a lid the allowance for contraction should be about 60 per cent

If only skin has been lost only skin should be substituted not skin and fat This is important Whether to use a full thickness or a split graft will depend on the needs and possibilities in the given case. Less contracture occurs under a full thickness graft than under a split graft. However the split skin graft is more certain to take and requires a shorter period of postoperative care. If it is applied over a wax form, the lid can usually be stretched sufficiently to allow for 60 per cent contraction. Furthermore when needed this type of graft can be applied to cover the lid defect and also an ad jacent area of indefinite size.

Because of its bulk, a pedicle flap carrying skin and subcutaneous tissue is not suitable for surfacing the orbicularis muscle but such a flap may be absolutely necessary when the loss is greater than skin depth

Dragging of the lid downward by paralysis of the check can be relieved somewhat by supporting the tissues of the face with strips of fasca lata but when the dragging is due to a sear from a loss in the check repair of the check is indicated

If the hd is drawn down by the loss or displace ment of the orbital border it may be raised by building up this bony ridge with a piece of costal cartilage after dividing the lower attachment of the pelpobral fascia. If the border is simply depressed as the result of a recent fracture it can be pried upward either from within the antrum or by hook or chisel inserted through the skin

When the separation of the lid from the globe is due to an enophthalmos, but the globe is not tixed in

1

the depth of the orbit, the globe can be brought forward by inserting cartilage deeply at the periphery of the orbit. If the globe cannot be experimentally brought forward by injecting physiological solution of sodium chloride into the depth of the orbit, the lids may be allowed to move back a certain amount by taking away some of the outer border and adjacent orbital wall.

Paralysis or damage of the levator palpebracauses a droop of the upper lid which is best cor rected by connecting the tarsus to the occipito-

frontalis muscle by a loop of live autogenous tendon The article contains seventeen illustrations of the procedures discussed. JAMES B BROWN, M D

Rodigina, A.: Cataract Recorption (Zur Katarakt

Resorbtion) Sevel Vesta Official 1011 L. I

The nature of the forces bringing about the resorption of cataract masses has not been definitely determined. The author reports attempts made to work out a surer method of producing cataracts experimentally in the eyes of rabbits and to gain a more intimate knowledge of the resorbing forces. Cataracta produced by the injection of adrenalin and sodium chloride solution into the lens were not stable and cleared up after a time. On the other hand, an 8 per cent solution of magnesium chloride was found to produce permanent cataracts which did not clear up. From o.1 to o.3 c.cm. of this solution mixed with an equal quantity of aqueous humor was injected through the middle of the cornea into the lens. In thirty five rabbits a single injection produced a total extaract and in six rabbits it produced a partial cataract which was per manent and in some instances pendsted without change for three years. Weaker solutions of mag nesium chloride did not yield definite results so far as permanency of the cataract was concerned.

In an investigation of the biological characteristies of the acueous humor Rodigins first studied the cytological characteristics of the normal aqueous humor and then those of the aqueous humor in cataractous eyes. Cellular elements were found in the acucous humor of only four of fifty normal eyes. Most of them were lymphocytes. In the entire amour of the centrifugalised sediment of the normal acceeds humor in these four cases only one or two lymphocytes and very rarely a single polymorphonuclear or squamous epithelial cell could be found. As a rule the normal aqueous humor was free from cells. The vitreous humor of the normal eyes was also found to be cell free. In the eyes with cutaract, especially those with rapid absorption of the cata ract, the microscopic picture of the aqueous humor was very different, showing many lymphocytes and often quite numerous phagocytic and neutrophilic cells. The neutrophilic cells were less numerous than the phagocytic cells and did not take part in the phagocytosis. Frequently the blood cells had penetrated directly into the lens. The entrance of the cells into the aqueous humor and the phagocytosis were most clearly seen during the period of

most active resorption of the cataract mames and decreased gradually with creation of the resorp-tion. In the cases in which the cataract was not resorbed, but remained stable, the aqueous humor was free from cells fust as in the normal eves.

In order to determine whether the resorption of the cataract occurred only by phagocytods or whether fermentative processes also played a part in the process the author carried out investigations to determine whether protectytic and amylolytic ferments are present in the squeous humor of nor mal and cataractous eyes of rabbits. The tests for proteclytic ferments was carried out with a few modifications, by the Gross-Fuld Michaelis method. In thirteen tests, from o or to o.o. c.cm. of proteolytic ferment was found in the aqueous humor of the normal eye. At a temperature of 14 degrees C. as little as 0.06 c.cm. of the aqueous humor had a proteolytic action. This action could be increased by heating the ferment. After the ferment it had been kept at a temperature of 38 degrees C. for a period of one boar o.o. c.cm. of aqueous humor was sufficient to produce the proteolytic action produced by 0.00 c.cm of aqueous humor at a tem-perature of 14 degrees C. The ferment content of the normal aqueous humor was the same in differ ent rabbits and was constant. In contrast, the re sorption process in eyes with extenset increased the protesse content of the aqueous humor as compared with that of the normal eye twofold and often even fourfold. If it was necessary to use 0.06 c.cm, of normal aqueous humor kept at a temperature of 14 degrees C and 0.04 c.cm. of normal aqueous humor kept at a temperature of 38 degrees C. for an hour to bring about the digestion of o.s c.cm. of a our per cent solution of casein, only o.o. c.cm. and o or c.cm. respectively of the aqueous humor of eyes with resorbing cataracts were required to bring about the same action under similar conditions. Therefore the aqueous humor of catamactous eyes contained three and four times as much protease as the aqueous humor of normal eves. protease of the aqueous humor remained quantits tively parallel with the resorption of the cataract. With the cessation of resorption, the fermentative activity of the aqueous humor fell to normal. The arrieous humor of eves with inactive cataracts showed either normal or almost normal values.

The presence of the amylolytic ferment, disstant, in the aqueous humor in pormal and cataractous eyes was determined from the fermentation of a r per cent starch solution to which the aqueous hamor was added. The conversion of the starch was determined qualitatively by the methods of Wohlegemoth and Trommer and quantitatively by the Hagedorn-Jensen method. Twelve ferments tion tests showed that at a temperature of 14 degrees C., pormal aqueous humor had no power to convert starch, but that after it had been beated to 38 degrees C. for an hour it acquired this power At a temperature of 38 degrees C., I c.cm. of normal aqueous humor was able to convert so c.cm.

of a 1 per cent starch solution. The aqueous humor of cataractous eyes and especially of those with atormy progressive resorption, was richer in disstase than the aqueous humor of normal eyes. The aqueous humor of eyes with a stable, inactive cata ract showed an almost normal diastase content.

In ten normal rabbit eyes, the sugar content of the aqueous humor ranged from 0 036 to 0 003 per

cent and averaged 0.065 per cent.

Finally the author made a micro-anatomical examination of four eyes with gelatinous eight with slowly resorbing, and six with stable entaracts. These also demonstrated the phagocytic and fer mentative resorption of the cataract and its substances. During the resorption the posterior cham ber and the lens contained numerous cells which apparently had wandered out from the ciliary processes. The capsule of the lens was attacked, thinned out and destroyed first in the equatorial portions. A lysis and phagocytosis of the cataract occurred The iris did not take part in providing the lytic and phagocytic agents. The latter apparently had their origin only in the ciliary proc | Uthelt (0)

Woods, A. C., and Little M F : Ureal Pigment: Hypersensitivity and Therapeusis Arch Ophik., 1933 11, 200.

The authors group the pathological conditions in cases studied by them as follows

Uveltis due to constitutional causes. Group r No history of injury

Group 2 Non penetrating wounds of the eye treamatic uveitie no sympathetic disturbance

Group 3 Operation involving the uveal tract unevential recovery Group 4. Operation involving the uveal tract

eyes operated upon lost because of postoperative infection no sympathetic disturbance

Group 5 Endophthalmitis phaco-anaphylactica. Group o Penetrating wounds of the eye involv ing the uveal tract recovery without enucleation or the development of sympathetic disease.

Group 7 Penetrating wounds of the eye involving the uveal tract injury and clinical course necesminting enucleation of the injured eye no pathological or clinical evidence of sympathetic ophthalmla.

Group 8. Delayed non-infectious postoperative uveitis.

Group 9. Sympathetic ophthalmia (a) patients not receiving pigment therapy, (b) patients receiv

ing pigment therapy

One hundred and fifty three patients with various conditions were subjected to the intracutaneous pigment test. Thirty-two of the tests were positive and 121 were negative. Hypersensitivity to uveal pigment was noted only after penetrating wounds of the eye. In general, the development of hyper sensitivity appeared to indicate a grave prognosis. Only I patient with a frank pigment hypersenutiv ity showed normal healing. One group of patients

appeared to present a new clinical entity the development of a delayed non infectious recurrent and chronic postoperative or traumatic uveltis as sociated with allergy to pigment. In sympathetic ophthalmia hypersensitivity to pigment is the rule although patients with acute exacerbations of the disease may have a definite phase in which the intracutaneous test is negative. The development of pigment hypersensitivity does not appear to be the cause per se of sympathetic ophthaimia findings of the authors study indicate that some other factor enters into the disease. The nature of this additional factor is unknown It is possible that there are differences in the immune response of different persons or that allergy to pigment may alter the normal immunobiological defense mechanism of the eye so as to allow some other specific agent to produce the characteristic picture of the In the cases of patients with a positive reaction to the intracutaneous test treatment with uveal pigment appears to be of value. The benefit cial effects may be due to desensitization with pig ment which allows restoration of the normal im munobiological defense mechanism

LESLIE L. McCor M D

Lindner K.: A New Method of Operation for Retinal Detachment With the Retinal Defects at the Posterior Pole of the Eye (Leber eine nene Operationsmethode fuer \ctzhautabhebungen bel \ctzhautdefekten am hinteren Augenpol) Arch f Ophth 1932 exxvill, 654

In 1930 Guist operated upon three cases of macu far hole removing the lateral orbital wall with preservation of the anterior orbital rim and then cauterizing at the posterior pole of the eve. In two of the cases healing occurred. However, the operation has proved very difficult and requires an aver age of four hours. Moreover in one case injury of the ciliary nerves by the operation or the action of the caustic led to long persisting corneal abscesses which were apparently associated with complete anasthesia of the temporal half of the eyeball.

In December 1011 after preliminary investiga tions on the eyes of rabbits Lindner operated upon two patients with a macular hole by a new method. The first case was that of a woman forty-six years old who had had a macular hole and almost complete retinal detachment for two months and presented coarse flaky and thread like vitreous opac itles in the right or better eye. Vision in the right eye permitted only the counting of fingers at a distance of 3 meters. Under treatment with stenopoelc glasses without rest in bed the detachment became so flattened in the course of eight days that at least as regards the vitreous, operation could be undertaken with the prospect of good results. After canthotomy an incision was made in the conjunc tiva in the folded area corresponding to the temporal half of the bulb and the conjunctiva was separated posteriorly The lateral rectus was then cut from its attachment following the insertion of a catgut suture in the end of the muscle. Blunt dissection of Tenon's capsule was done. Twenty four milli meters behind the limbus, somewhat above the horizontal meridian in order to avoid the long posterior ciliary artery entry through the sciera was made with the lance and the chorold carefully exposed. It was then possible to alip a graduated spatula between the choroid and sciera without the slightest resistance. Examination with the ophthal moscope showed that the spatula entered above the macula and reached the upper part of the disk margin. On the third careful attempt, the point of the spatula rested exactly at the macular hole. An injection of 1/25 c.cm. of a 6 per cent solution of caustic potash was then made by means of a finely graduated syringe with a silver cannula. Then, between the limbus and the scientl opening, two trephine boles were made somewhat above the horizontal merklian, and from these the choroid was undermined to a point near the ora serrata. An injection of 1/50 c.cm. of the 6 per cent caustic potash solution was then made subchoroidally corresponding to each of the trephine holes. After the injection the sciera appeared as a dark band 4 mm wide. The operation was completed by perforation of only the posterior trephine hole, suture of the muscles, and closure of the conjunctiva.

On ophthalmoscopic examination immediately after the operation the macular hole appeared at most black, this coloration being due doubtless to staining by the caustic potash of a hemorrhage

occurring during the operation.

Eight weeks after the operation, examination revealed at the posterior pole of the eye an extensive gray area partly surrounded by hemorrhage. From this there extended anteriorly and opward a broad, irregular pigmented band with the appearance of striped retimochorolditis. The visual field showed a large central soctoma of about 30 degrees. The peripheral fields were normal. Vision permitted the counting of ingers at a distance of 16 mets.

In the second case, that of a woman forty-three years of age with myopia (13 diopters), total detachment with a typical long horseshoe-shaped tear in the 17 degree meridian had been present in the right eye for three weeks. In the macula there was a sharply outlined round hole. Vision was reduced to the discernment of hand movements. In a period of fourteen days the use of stenopoeic glasses resulted in extensive flattening of the detachment and improvement of vision sufficient to permit the counting of fingers. The operation was somewhat different from that performed in the first case. The superior rectus was cut off and the tear surrounded by seven trephine holes with preservation of a thin layer of sciera. An injection of 1/100 c.cm. of a 6 per cent solution of caustic potash was then made. Immediate ophthalmoscopic examination showed that the macular hole was hit exactly. The trephine holes around the anterior torn area were then opened with the lance as far as the bare chorold and around the nasal side of the tear were united subchoroidally by the use of a spatula. Each expined between the trephined areas was treated with 1/100 c.cm. of the 6 per cent solution of caustic potasis. The operation was concluded by making a rab-choroidal pocket about 6 mm. long backward, inding 1/100 c.cm. of the 6 per cent solution of caustic potasis, perforating two trephine openings, and closing the muscle and conjunctives.

Eight weeks later there was a grayish red field in the region of the macula and the retina was adherent. Vision was -1200 w +6.00 cyl.-6/60, and with telescopic spectrates =6/8. The visual field was normal. Hardly any central scotoms could

be discovered.

In the use of his new operative method for or dinary detachments the author now employs a 3 per cent solution of caustic potash instead of a 6 per cent solution as the latter is too destructive. A favorable result is to be expected from this chemical agent which produces a swelling necrois as if has a deep action. The chemical agents belonging to the cause as congulation recrease. Which is confined inflammation and do not work through the choroid occasily Moreover some of them, after nitrate for example, cause a strong candation with a purlent character and are therefore ansatitation.

The anthor has since used the described procedure, which he calls an "undermining method," in other cases of detachment. Instead of obtaining adhesion through a single cautery point, he is able, by the undermining method, to obtain a continuous adherion. The method has the advantage that only a few trephine openings are required and therefore time is saved. Moreover, the adhesion is continuous and the great danger of hamorrhage in the interior of the eye is considerably decreased. Of disadvantage is the fact that reting is functionally disturbed to a greater degree than after the operation per formed through single trephine holes with free spaces between. However this is not so important as the involvement usually occurs in the peripheral parts of the retina. Ruccines (O)

NOSE AND SINUSES

Eigler G.: Endothalioma Perithelloma, Cylin droma, and Similar Timoro of the Upper Respiratory Tract (Leber Endothelloma, Peritheioma, Cylindroma und ashnicha Timorom de obern Luftwege) Arch Ohr-are Hallk 193 excell.

This article is based on a review of the various tumors observed in the iast few years at the Halle clinic, most of which were diagnosed by biopay as endottelionata. In judging the malignancy of a tumor special attention was paid to the history and the course of the condition. On the basis of their histological structure and their genesis, the neo-plasms could be divided into five distinct groups in this grouping the clinical benignancy or malignatory of the individual growths was not considered by

cause this could not always be determined accurately from the histopathological picture. All of the neoplasms arose from the region of the upper respirators tract and the mouth. On the basis of their endothelial genesis hemangiomata and lymphangiomata were excluded.

The neoplasms in this Group r (lout tumors) group are designated as "fibromatous or sarcoma tous angioplastic peritheliomata. The most im portant part of their structure consisted of newly formed blood vessels. Tumor formation (partly vascular partly avascular) occurred around the vessel lumina. The stroms showed a tendency toward hyalinization. There was no demonstrable mucus formation. Such tumors, especially those which in large areas have lost close communication with blood vessels are to be considered clinically malignant even though they do not appear to be sarcomatous in all portions. Of the four tumors studied by the author one was a bleeding septal polyp one was on the hard palate and the two others originated from the cribriform plate of the ethmord bone.

Group 2 (three tumors) These neoplasms were blastomata with characteristic structure and a certain smilarity to true endotheliomata but as their origin could not be determined definitely they were considered mesodermal malignant tumors. The first of the three was in the cribriform plate and the neighboring orbit and had broken through the dura. The second, which had a base the size of a German mark was nituated on the hard palate extended to the soft palate pushed the upper pole of the tonsil down, and had formed metastases in the regional lymph grands. The metastasis travelled the same course as that usually followed by postanginal sepais. In iront of the anricular muscle there was a fluctuating movable mass about the size of a bazel

mass and caused marked ordems of the soft palate.
Group 3 (three tumors) The tumors in this
group were of uncertain origin and therefore con
addered special forms of sarcoms. All were located
in the nose. Clinically the at first suggested
polyps, but because of their active growth tendency

nut. The third tumor closed the nose by its large

they were considered malignant.

Group 4 (three tumors) These neoplasms in cluded benign and malignant tumors which some what resembled peritheliomata. They were disg nosed as angloplastic epithelial growths. One of them had destroyed the right half of the hard palate and the lower half of the septum and had filled the right half of the nose with easily bleeding polypoid masses. The tumor formation on the pelate had been present for twelve years without forming metastases. Another of the tumors in this group was a firm, soperficially necrotic neoplasm which filled the right side of the nose the right choses and the right half of the nasopharynx and had caused exophthalmos. The third tumor was a neoplasm with a red irregu lar surface extending posteriorly and to the left at the level of the second or third trachesl ring.

Group 5 (four tumors) The tumors in this group were neoplasms of the type described by Billroth as "cylindromata" and showed evidences of malignant change. In Eigler's opinion they are of epithelial origin. Their typical location is the posterior part of the mouth the pharynx and the entrance to the larvnx. They are usually sharply circumseribed and encapsulated but tend to recur locally and to form regional metastases. Therefore from the therapeutic standpoint they are to be regarded as malignant koschier's term for them—carcinoma—cylindromatosum—is appropriate.

Eigler discusses the clinical histors and histopathology of the individual tumor groups and draws conclusions therefrom regarding the clinical aspects and pathogenesis of the neoplasms. The article contains ten photomicrographs.

A Aurement (II)

MOUTH

Stewart C. B: The Care of Cervical Glands in Intra Oral Carcinoma 4m J Reenigenel 1933 xxit 234

Failure of patients with intra oral carcinoma to recover is usually due to metastases in the regional glands. This is often true even after the primary lesion has been successfully eradicated

Although difficult to prove it seems that irradiating the regional lymphatics before the primary lesion is treated vigorously raises the power of defense of these glands against cells that may apread

to them

Sufficient statistics upon which to compare the results from surgery with those of irradiation are not available. Bloodgood reports a five year cure from surgery alone in 50 per cent of cases of metas tasts to the cervical glands from cancer of the lip and estimates the incidence of five year cure from such treatment in cases of metastasis from car choma of the tongue at 10 per cent. Shreiner and Simpson report no cures of cervical metastases from external irradiation and a five year cure in only 2 per cent of cases treated with unfiltered radium implants. These results served to introduce the combined therapy used at the Steiner Clinic and elsewhere.

In cases which present no evidence of glandular invasion a full skin erythems dose of high voltage roentgen therapy is given to both sides of the neck including the primary, lesion. The primary, lesion is treated later and six weeks after the first treat ment the neck treatment is repeated. If a suspicious gland is encountered gold tubes sufficient to give 10 kin crythems doses are introduced either through the skin or by exposing the node.

Cases in which the glands are firm and have not broken down or become firmly adherent are treated first by external irradiation in the same way as cases with no evidence of glandular involvement. A careful operative dissection is then done. This is as radical as possible. Before closure of the wound small filtered emanation tubes are carefully placed in all suspicious areas. After the treatment the patient is examined frequently for recurrence.

In late cases in which surgery is not followed by cure sufficiently often to justify the inconvenience the operation causes the patient, external irradiation is re-enforced by interstitial implants. This offers palliation for a prolonged period and occasionally a reasonable hope for cure.

WILLIAM G. HARR, M.D.

Duffy J J: Conservative Procedure in the Care of Carrical Lymph Nodes in Intra-Oral Carcinoma. Am J Resulpsel., 1933, triz, 141

In cases of intra-oral cancer the cervical lymphatic system has received increased attention during the part three decades and complete unlikered inech dissection has been proposed surgical clinics for the complete control of the control of

Inoperable glandular metastases are those which have perforated the capsule and infiltrated the sur rounding tissues, those appearing on the other side of the neck, and those due to a primary epidermoid cardinoma of Grade 3 a transitional-cell cardinoma, or a lympho-epithelioma.

In the author's cases of intra-oral cancer the cer-

vical region is treated as follows. At the time of the patient's admission to the hospital, both sides of the neck, including the primary lesion and the regional nodes, are subjected to extensive irradiation. This is done even when no nodes are patable. The done and method of ir radiation depend on the type and location of the lesion. When interstitial tradiations of the primary lesion is indicated, it is done after completion of the external irradiation. In case which are far ad vanced only the paillastive external irradiation is given. The done depends upon the general condition and the stage of the disease. Many case of transitional-veil carcinoms and lympho-opthiciloms.

require no other type of irradiation. In cases with hosperable metastases in the lymph glands complete removal of the contents of both the anterior and the posterior triangles of the neck, together with the stemonastoid moste and internal grufar vein, is done. In all disactions, whether complete or partial, closure of the wound is preceded by the imphasticion of gold tubes of radon in the locations where the lymphatic channels have been stopped to the complete of the content of the content where the lymphatic channels have been so that the content of the

The author analyzed a group of 234 cases of microscopically proved malignant lesions of the oral cavity including carcinoma of the tongue, floor of the mouth, inferior maxilla, mucosa of the check, soft palate superior maxilla, and antrum which were admitted to the Memorial Hospital, New York, in 1925 and 1926. Sixty five (27 7 per cent) were Inoperable. In 123 (52.5 per cent) there were no clandular metastases when the nationt entered the hospital, but in so (s3 5 per cent) of these such metastases developed and in 16 of the s9 the metastases were inoperable. To the 46 patients who had operable glandular metastases at the time of their admission to the hospital were added a who developed such metastases after admission, the total number of those with operable metastases being therefore so. In 17 of the cases of operable glandular metastases a complete dissection of the neck, and in 13 cases a partial dissection of the neck, was done. In the o other cases no operation was performed. To the or patients who had inoperable glandular metastases at the time of their admission to the hospital were added 16 who developed inoperable giandular metastases after their admission. There fore the condition was inoperable in 81 (34.6 per

cent) of the cases.

Conservation is maintained in the cases of patients without metastases in the cervical lymph glands, and the field of operable jandoids metastases is being narrowed as experience is gained in the management of the advanced and borderine cases of cervical metastases from intra-oral cancer.

Biair, V. P., Brown, J. B., and Hamm, W. G.: The Radical Treatment of Carcinoma of the Lip-Am J. Recorpted 1933, xxix, asp.

Case of cancer of the lip are divided roughly into four clinical groups (1) those of early lesions of uncertain character (2) those of small but active lesions in which there is little doubt as to the diag nosis, (2) those of advanced lesions of intermediate extent, and (4) those of practically inoperable lesions. The plan of treatment depends more or less on the stage of the lesions.

In the authors cases of early indeterminate growths the lesion is excised and careful square is done. In those of early typical lesions the cutting cautery is used and spontaneous healing awaited. The coice between irradiation and dissection of the glands depends largely on the microscopic

picture.

In cases belonging to the second clinical group the tumor is removed and repair is made with figure from the same or the other lip. Dissection of the glands may then be done immediately but as a rule is delayed. In certain paimary cases in this group radium irradiation is used by choics.

In cases of advanced lesions of indeterminate extent wide removal or destruction, usually with the cautery is necessary. As a rule it is best to keep the patient under observation for recurrence for a time before repair is done. Any bone involvement is destroyed with the cautery or the soldering into and spontaneous separation of the sequestra is awaited before the repair is undertaken Gland disection may be done at the time of the original operation but may be delayed until the danger of local recurrence is remote

Inoperable cases are treated with radon, radium

element, or the roentgen rays.

In all cases of squamous-cell carcinoma of the lip a complete block removal of the lymphatic areas in the submaxillary and submental regions and the side of the neck to a point well below the infurcation of the carotid is necessary. Palpability of lymph nodes does not necessarily contra indicate excision Involvement of the lymph nodes may not become manifest until as long as eight years after cure of the primary lexion.

Gland involvement occurs most commonly in the submaxillary and buccal glands, around the parotid and in the submental glands. The salivary glands themselves are very rarely involved The authors treat the neck with rootigen irradiation routinely

whether dissection is done or not.

In conclusion they state that the upper lip requires as careful consideration as the lower lip

NECK

Carmona L 1 The Kottman Reaction (Sulla reazione di Kottmann) Clin. chir 1932 vill, 1057

In experiments on normal animals the author found a considerable variation in the Kottmann re action. In 25 per cent it was accelerated sufficiently to correspond to the values given by Kottmann as indicating hypothyroidism. The more rapidly the test was done after the blood had been drawn the more constant and the less retarded was the reaction Unilateral thyroidectomy resulted in irregular and inconstant changes in the reaction. Total thyroid ectomy caused a constant slowing of the reaction. This is of particular interest because according to Kottmann slowing of the reaction is an indication of hyperthyroidism. Injection of thyroid extract resulted in more or less marked acceleration of the reaction. Removal of the testicles caused no sig nificant changes, but the injection of testicular ex tract was usually followed by considerable accelera tion of the reaction. Excision of the ovaries accele rated the reaction slightly and the injection of ova rian extract accelerated it strikingly

LEO M ZIMMERMAN M D

Nestmann F: The Question of Chronic Thy rodditis (Zur Frage der chronischen Thyreolditis) Belir s. Min Chir., 1932 clvl, 253

The author reports a case of non-specific chronic thyrolditis with vacular changes which were for merly considered characteristic of syphilis but may occur also in tuberculosis and non-specific inflammations as was evident in a case reported by Ruppanner and three cases reported by Roulet.

The patients presented no other suggestion of syphilis and in some of them another cause could be dennitely proved. Therefore the vascular changes are not specifically syphilitic, but occur in other chronic inflammations of the thyroid gland haps the very chronic course of the inflammation is responsible for the vascular changes the relatively inactive granulation tissue of the chronic inflamma tion not destroying the vessel but growing through it, obliterating its lumen, and leaving its shadow the clastic ring. Acute inflammations completely destroy vessels of this caliber even in the thyroid gland. In all such cases the diagnosis is difficult and the therapeutic indications are obscure Confusion with malignant struma is possible. Roentgen irradi ation is indicated Malignant goiters (carcinomata in contrast to sarcomata) react surprisingly well to the roentgen rays, whereas chronic inflammatory diseases of the thyroid react slowly if at all. In operable cases total extimation is the procedure of choice, but if a positive diagnosis cannot be made at operation resection of the thyroid is sufficient. Com plete substitution by the administration of thyroid preparations is feasible, as the function of the in flamed gland is greatly reduced. In tuberculous inflammations of the thyroid the entire gland should be removed. If syphilis is suspected antiluctic treatment should be considered

ERICH HEMPEL (Z)

Towers J R H: Masked Hyperthyroldism as a Cause of Heart Disease Lancet 1933 ccxxiv 67

Of fifteen patients with hyperthyroidism all sought treatment for cardiac symptoms. Their average age was fifty two vests. All of them were women. The average duration of the symptoms was three and eight tenths years. The majority of the women were apathetic in appearance and well nourished. The picture they presented was quite unlike the classical picture of Grave a disease. The diagnosis was indicated by the cardiac condition.

Suddenness of the apex beat was noted even when the rate was slow. This suggested an increase in the size of the heart but in most cases the heart was not enlarged. The apex impulse may be likened to that given by a normal heart after exercise. systoles occur with a rapid rate. Paroxyamal auricular fibrillation is another arrhythmia common ly associated with the condition Roentgenography of the heart has been of value. The organ is not enlarged as a whole and is smaller than is suggested by clinical examination. Pulsation is increased. The pulmonary are may be fuller than normal and there fore produce a straight left border to the heart shadow. When the patient is turned into the first oblique position the straight posterior border with no enlargement of the left suricle is in striking contrast to the shadow seen in mitral stenosis, from which it must often be differentiated. As this condition occurs most frequently in older persons, the typical 'thyroid heart' is less commonly noted as associated aortic atheroma or slight in

creases in the blood pressure due to other causes may modify the picture.

Thyroid enlargement was absent in ten of the cases reported and only alight in the others. Expohthalmos was absent but two of the patients had a slight stare. In most of the cases the metabolic rate was increased, but in several it was normal. In none was there a marked loss of weight. The patients had cheet pain of an angusal nature which

was usually felt at the onset of the palpitation Of great value in the diagnosis was the failure of

rest and digitalis to affect the condition

Grown A Collett M D

Bing J: Sporadic Golter of Genotypic Origin and Its Relation to Other Diseases of the Thyroid Gland (Die genotypisch bedingte spondische Strame—Kropf—und deren Verhalten zu anderen Thyroiden-Leislen) Acts med Scawl 1932 lrdz,

Following a review of three series of cases of familial gotter recorded in the literature the author reports nine definite cases and one questionable case which occurred in a single family. The gotter as bereditary domaint factor, but was limited to females. The patients were living in a non-gotteous region but some of them had been reared in another community. Therefore, ordinary endemic factors were excluded. No relation was found between the inheritance of blood groups and of gotter.

In a study of a large series of cases of spotadic golter a familial disposition was found in 17 per cent of the patients, males as well as females. An almost identical incidence of a familial tendency as found in a smaller group of patients with Basedow's disease. In families with a tendency toward gotter simple goiter exophthalmic gotter and myrodems were encountered. Len M. ZORDERSKY, M.D.

Valdoni P: Endojugular Metastates of a Pregressive Malignant Turnor of the Thyrold (Metastat endogugulare da progresso tumore della tirolde) - 3rd. ital. di chir., 1931 xxxii, 749.

The author reports the case of a woman forty five years old who had a non toxic nodule in the right lobe of the thyroid gland Excision revealed normal thyroid tissue. Recurrence associated with pain and symptoms of mild hyperthyroidism led to locetomy fourteen months later Within two months after the second operation the swelling re-appeared. After thirteen months a third excision was done. At this time there was no clinical evidence of hyperthyrold ism. The mass was found to be a distended internal jugular vein filled with an adherent tumor thrombon. The entire right internal jugular vein together with the proximal portion of its tributaries was resected. On histological examination the tumor thrombes was found to be a carcinoma of the thyroid. Re examination of the tissues removed at the previous operations showed that the original nodule was a cylindrical adenocarcinoma and the recurrent mass removed at the second operation was a mallenant papilloma. The endoingular metastasis was a papillomatous carcinoma When the patient was reexamined twenty months after the third operation no evidences of recurrence or of further metastaxes LEO M ZINGGERMAN M.D. were found.

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS; CRANTAL NERVES

Parker H. L. and Kernohan J W.: Stenosia of the Aqueduct of Sylvius. Arch Verrol & Psychiat 1933 xxiv, 538

The authors report six cases in which a chronic pathological process led to progressive narrowing of the aqueduct of Sylvius. In five the stenosis caused urgent clinical symptoms demanding relief Unfortunately there was a marked similarity in the clinical symptoms produced by diverse pathological processes. Essentially the clinical picture was that of chronic internal hydrocephalus with evidence of increased intracranial pressure in the form of head ache vomiting and visual disturbances. Autopsy performed in all of the cases revealed nathological changes which included those due to syphilis, tuber culosis and new growths. Chronic proliferative processes in the periaqueductal neuroglia were also found. Some were of inflammatory or toxic origin and others the result of developmental error. In one case the narrowing of the aqueduct was due to congenital maliormation The ages of the pa tients ranged from six to thirty five years.

The differential diagnosis between occlusion or narrowing of the aqueduct and tumors filling the fourth ventricle is always difficult. Ventriculography does no more than establish the presence of internal hydrocephalus of the lateral and third ventricles. While it may suggest the possibility of occlusion of the aqueduct of Sylvius from causes in the vicinity of the canal tumors with such an effect which are capable of removal cannot be excluded. Never theless the study demonstrates the frequent existence of chronic processes in the tissues surrounding the aqueduct of Sylvius and the great variety of condutions producing the same disturbances.

Granulomatous processes and new growths are more readily understood and recognized on pathological examination. However, there remains a definite group of cases in which the pathological changes are throub profileration of the glis surrounding the aqueduct. These are not so readily interpreted. Chronic ependymits, periaqueductal gliosis and congenital narrowing of the aqueduct of Sylvius are ultimately fatal and little understood. One of them may grade imperceptibly into another They may occur at any time from prenatal existence to the end of the natural span of life.

Davis, L. and Haven, H. A. The Surgical Anatomy of the Sensory Root of the Trigerninal Nerve. Arch News & Psychiat 1933 2xix, 1

In their studies on the surgical anatomy of the trigeminal nerve Davis and Haven reviewed the

developmental anatomy the physiology and the neuro-anatomy of the sensory root of the nerve I rom the developmental standpoint they found evidence that the fibers of the sensory root do not pursue a straight parallel course from the ganghian into the brain stem. Rather there are enough and anastomoses of the fibers and a distinct rotation

Studies on the functional topographs of the root revealed no definite arrangement of thers according to function. There was a fairly regular intermingling of the small and large (ibers in the root near the ganglion as well as near the brain term. The authors were unable to substantiate and theories of topographic rearrangement of fibers in the sensors root near the brain stem on a functional basis. Therefore they believe there is no physiol giral foundation for any operation directed at the differential interruption of certain functions by partial section of the sensors root near the brain stem.

Gross dissections of the human sensors root served to confirm the finding by previous investigators of a plexiform arrangement of the rootlets near the gan glion and numerous branchings and raminications in the root along its course toward the brain stem Degeneration experiments performed on cats re vealed that although there are numerous anas tomoses along the course of the root the fibers which come from the various divisions of the gas serian ganglion appear to occupy a definite position in the root in the region of its entrance zone. The fibers from the onbthalmic division occupy the infenor and median position the fibers from the mandibular division, the superior and lateral position and the fibers from the maxillary division the intermediate area

From their studies the authors conclude that if a subtotal or differential section of the sensor, root is performed it should be done very close to the gan glion to make certain that all of the fibers of the de sited division are sectioned

Spiller W. G. and Frazier C. II. Tic Douloureux: Anatomical and Cilnical Basia for Subtotal Section of the Sensory Root of the Trigeminal Nerve Arch Verrol & Psychiat 1033 xxix 50.

Spiller reviews the experimental anatomical data with reference to operations directed toward subtotal section of the sensory root of the trigeminal nerve. He takes issue with the statement of van Nouhuys that the sensory root of the fifth nerve is not composed of three parts corresponding to the three peripheral branches from the gasserian gan glion. He presents evidence from his own observations and those of others which tends to prove that there is a fascicular arrangement throughout the various parts of the trigeminal nerve.

Frazler discusses clinical data on the basis of a series of cases selected at random from his experience during the past seventeen years. He states that he was convinced by his early experience that, at least at the point where the sensory root enters the ganglion, the inner the middle, and the outer thirds supply corresponding portions of the ganglion and the ophthalmic, manilary and mandibular divisions peripheral to the ganglion. In cases in which the pain was referred only to the third division, only the outer third of the root was divided and in those in which the pain was referred only to the second division, only the middle portion of the root was divided. While an exact subdivision of the root into thirds was not always possible he found it necessary to leave only one or two (sariculi of the inner and outer portions of the root intact to supply the remaining two-thirds of the ganglion when oper ation was directed at the second division.

From the chinkal evidence be concludes that the cotter portion of the root supplies the outer portion of the ganglion and the mandibular division, the middle portion of the root supplies the middle portion of the ganglion and the manillary division, and the inner portion of the root supplies the inner portion of the ganglion and the ophthalms division. Hart Harts, M.D.

Finding J P v Facial Paraigns Due to Toric Infiammation of the Geniculate Ganglion. Med J Australia, 1033, i, 51

The author discusses the syndrome following infinamention of the priminate graption, the Ramey-Hunt syndrome. This comains of (1) Intense oringin and intuitus, (4) Leada paralysis, on the side of the lesion, (3) loss of taste, and (4) berper source of the draw membrane, the wills of the external casal, the external mestus, the cavem conclas, the antitrareas the authorities and part of the blowle.

If the inflammation extends proximally and involves the eighth nerve, vertigo nystagmus, and

vomiting may result.

The treatment indicated is massage, electrical

treatment and removal of focal infection.

Five cases are reported briefly

niefly Lag M. Daymory, M.D.

Duel, A. B.: Clinical Experiences in Surgical Treat

ment of Facial Paley by Autoplastic Nerva Grafta: The Ballance-Duel Method. Arch. Olderwisel, 1915 3rd, 767

The practical outcome of the work of Ballance and Duch, so far as otdolghila are concerned, is the fact that their experiments led them to depress te assatomests of the factal nerve with one of the adjacent nerves in the neck as a method of restoring lost facial function and to advise in place of tids method, the use of an autoplastic graft to bridge the gap from the proximal to the distal segment caused by injury of disease.

Twrive cases are reported and the results of operation in four of them are shown. In many of the cases it is too early to predict how complete the recovery will be.

The area of destruction of the nerve varied from 15 to 40 mm. in length.

It seems certain that even most cateful observation of the face by the anexhetist during the opention for sudden again of the muscles as an indication of injury of the nevre is unreliable. Trauma server enough to cause facial palsy may be inflicted without any observed sparm and while sparm may be informative at times when seen positively. Its absence is not an accurate induction of whether when, or how entensive an injury to the facial nerve may have occurred.

These experiences point conclusively also to the advisability of uncovering the nerve at once a benever lackal palsy immediately follows an operation on the massied, in order to determine the extent of the damage. Compression or alight injuries may then be tremedied by decompression, with assurance that in many cases there will be complete or nearly

complete recovery

In many cases prompt inspection will show that the actident has destroyed or damaged a longer segment of nerve Immediate operation will permit decompression of the nerve above or below the point of lujury is time to avert the dire consequences of prolonged inflammatory compression. A suitable graft may be introduced to replace the damaged segment at once "a there can be only slight atrophy of the muscles from non-use a quick and more per fect reportary is assured.

In his experiments on animals the author demonstrated definitely that any autopiastic nerve graft, either motor or sensory, with the direction of the proximal and diatal ends either maintained or reversed will successfully bridge the gap and restore the function of a divided facial nerve

Although the external respiratory nerve of Bell was originally suggested as the source of the graft, Duel gives several reasons why an intercostal nerve

is the more practical.

Delay of operation may result in failure.

Operating in a supporteting field demands great
subsequent care to prevent necrosis of the graft until
it is protected by healthy granulations.

Rules for the care and dressing of the area are given.

[AMER] BARRETT BROWN, M.D.

SPINAL CORD AND ITS COVERINGS

Kernohan J W., Woltman, H. W., and Adson A. W. Gliomsta Arising from the Region of the Carda Equina: Ginical, Surgical, and Histological Considerations, Arch. Venuel, 5: Psychol., 933 x19, 157.

The authors state that the filum reminale is not the rudiment which it is generally supposed to be. It is made up of all of the elements which are preent in the spinal cord, namely glisl cells, especially astrocytes and some oligodendroglial cells. However, no microglial cells were found in any of the normal tissue examined Ganglion cells were common, but none was normal. There were many neuroblasts or immature forms of ganglion cells. Many axis cylinders were also present. Myelin was demonstrated in considerable amounts in some cases and was almost absent in others. The most interesting histological feature of the filum terminale was the masses of ependy mal cells distributed throughout its entire length.

In more than 80 per cent of the cases of glloma studied by the authors the initial complaint was pain and in about 8 per cent it was weakness. Sphinceric disturbances were present in 32 per cent but were not the first complaint in any. As might be anticipated from this group of symptoms an early diagnosis is often difficult and may be impossible

In eight of the cases studied both the patellar and the Achilles tendon reflexes were normal. In seven cases, roentgenograms were of ald in the diagnosis of tumor. Camp and Adson recently called attention to the importance of a more careful study of the pedicles, which are often eroded in cases of tumor in eighteen of the cases studied the spinal fluid removed was yellow and in eight the needle entered the tumor.

Eighteen of the tumors reviewed by the authors arose from the filum terminale and seven involved the conus medullaris and the filum terminale.

As a rule gliomata arasing from the region of the cauda equina originate from a single area in the filum terminale but occasionally they appear to have originated in neveral areas and to have coal excel. They are soft and usually very vascular and capable of producing crossons of the laminar, the pedicles, and the bodies of the vertebra They cause thirming of the meninges but rarely break through them to invade the adjacent tissues. The authors have never seen them invade nerve trunks. They grow between the roots of the cauda equina and extend along the roots into the intravertebral spaces making entirpation very tedious When the patient presents himself for surgical relief, the tumor is usually very large and extensive. It often extends from the eleventh dorsal vertebra to the sacrum.

Of the eighteen tumors of the filum terminale atudied by the authors fifteen were completely re moved and three were partially removed. Recovery without recurrence for periods up to thirteen years was obtained by removal of the tumor and wide resection of the filum terminale, but only partial and temporary relief was obtained by partial resection, decompression, and roentgen therapy. The degree of recovery depends more on the compression of the conus medullaris than on pressure of the roots. The symptoms from root pressure disappear satisfactorily following removal of the tumor In the cases reviewed there was one postoperative death that of a senile patient who died on the seventh day from coronary occlusion. The three pa tients treated by partial removal of the tumor died from three to four years after the operation. Two of them died presumably from pyelonephritis and one from an ependymouns of the medulla.

Of the seven cases in which the lesion involved the comus medullaris and the filum terminale complete resection of the tumor was done in one and partial resection in six. In the latter the resection of the comus failed to include all of the tumor even though it was done as high as the lower border of the eleventh dorsal vertebra. In two prolonged partial relief was obtained, the patients recovering to the extent that they were able to carry on their regular vocations for three years. In the others there was no anneciable improvement.

From these results it is apparent that for complete removal of a tumor of the filum terminale an early diagnosis is essential. Complete removal gives bet ter results than partial resection although it is tedious and time-consuming and may require per formance of the operation in stages in order to avoid too great surgical shock.

Resection of the conus medullaris containing the tumor is justifiable if there is a fair prospect of in cluding all visible growth

Caraffa J B A Surgically Treated Extradural Fibroma (Fibrome extradural opéré) Rev Sud Am de med et de chir., 1932 id 945

Carifa reports an extradural fibroma occurring in a man twenty four years old. The first symptom pain radiating from the waist into the lower extrem titles was noted a year prior to operation. Weakness of the lower extremites was first noticed two and a half months later and progressed to spastic parapleçta. Other symptoms were painful contraction and numbness of the lower extremities, frequency of unfiation transitory numbness of the hands and forearms, bilateral ankle clonus, a bilateral positive Babinski reaction, and a spastic gait.

The suboccipital injection of \bar{x} 5 cm. of lipidod disclosed a block at the level of the first and scond dorsal vertebræ Operation revealed a hard extra dural fibroma, about the size of a small hazehut which was adherent to the lamella between the seventh cervical and first thoracic vertebræ Fifty five days after the operation the patient was able to walk without aid although his gait was slightly spatic and the pyramidal symptoms persisted.

The author emphasizes the value of lipiodol in the localization of such tumors and states that early diagnosis is of primary importance for successful operation.

ANTHOUS STURDEY ANT M. D.

PERIPHERAL NERVES

Farnett I P: The Physiotherapeutic Treatment of Neuralgias of the Brachial Plexus (Il tratta mento fisioterapico nelle nevrajic del plemo brachiale) Policiis Rome, 1932 xxxix, sez. med 621

In forty two cases of brachial neuralgia the author experimented with various physiotherapeutic procedures. Erythema doses of ultraviolet irradiation gave the best results in cases of so-called essential or idiopathic neuralgias, and disthermy the best

results in cases of secondary brachial neuralgias due to arthritic changes of the cervical spine. Farmeti is of the options that the ultraviolet rays cause a reflex action modifying the circulation in the nutritive venesis of the effected nerves and a secondary general reaction of a humoral nature.

In the application of diathermy to the cervical grine he applies the active electrode (a plate meas uring 5 by 1 cm moulded and held in place with wide rubber bands) over the cervical spine and one of two indifferent electrodes (measuring about 9 by 13 cm. both connected to the same pole of the machine, and moulded) over the lower third of each arm. He believes that this method brings maximal beat to the cervical spine and yields better results than methode employed previously.

DAVID JOHN IMPARTATO M D

Conway F M Traumatic Ulnur Neuritia. 4 xx. Sarg 2035, acril, 425

In inhifes about the elbow joint the ulmar nerve especially vulnerable to trauma. Conway describes a neurità which may develop as a late sequel to fractures of the external condyple of the homens. Such fractures may be difficult to reduce When reduction is incomplete a fair functional result may be obtained but the forwarm is deviated outward with an increased carrying single. The deformity increases with time because of overgrowth of the medial concyle as compared with the external

condyle. The ulnar nerve in its bed behind the medial condyle is stretched with each fleshon of the forearm. A similar condition may obtain when the ulnar nerve is hypermobile and slips forward on the epicondyle.

Such trauma long continued, may result in a compression neutritis of the ultnar nerve. On histological examination the nerve then shows the picture of chronic interactital neutritis. The neutritis may lead to partial or complete paralysis of the ultnar nerve with analysis of the small integer and ulars horder of the hand and, in advanced cases paresis and atrophy of the muscles supplied by the nerve with characteristic weakness and claw hand deformity. The four possible methods of treatment are sim-

ple freeling of the nerve in its bed, the googing out a posterior condriar channel supracondylar estectiony of the internal condvie, and transplantation of the altars nerve from its groove to a new bed an terior to the medial specondvie. The last is the only method free from serious objections. It is the only method free from serious objections. It is the method recommended by Conway. In the case reported in this sertlete the injury to the elibor occurred when the parient was two years old.

In the case reported in this article the fujury to the elbow occurred when the pettent was two years old. The interal epicondyle was not replaced, and twenty years later paralysis of the ulura nerve occurred with the changes described. Such a long latent period is very characteristic. Neurolvins performed under local anesthesia was followed by almost complete relief of the Symptoms. Jones W Error M.D.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Taddel A: The Bleeding Apple (Contributo allo studio della mammella sanguinante) Clin chir 1932 viti 163

The author reports a study of four cases of bleed ing nipple. From his findings and a review of the interature he concludes that bleeding from the nipple is a sign characteristic of intracanalicular dendical epithelioms. As he believes that this neoplasm may become malignant he advises radical removal of the breast with resection of the author) lymph nodes.

Priza A Rost M D

Pettinari \ Tuberculosis in Resistant Organa.
Tuberculosis of the Breast (Contribute alla consistenta della tubercolosi in organi refrattari La tubercolosi della mammella) Clin chir 1957 vill, 764

The author reports the case of a woman lifty eight years old who for a vear prior to her admission to the clinic suffered from bilateral pleursy and cervical adentits. Treatment of the cervical lymph nodes by roentgen irradiation was followed by improvement. The patient then remained relatively well for about seven months but at the end of that time a painful mass the size of an apple appeared in the left axilla Treatment of this mass with the V. rays caused it to disappear but it soon recurred. About a month prior to the patients admission to the clinic a small mass appeared in the upper outer quadrant of the left breast and grew rapidly up to the size of a large apple. The general history revealed nothing of importance.

Examination of the left breast disclosed a firm irregular nodular tumor which in places was at tached to the skin and in places was somewhat soft. The neoplasm was not adherent to the underlying structures. The nipple was retracted and adherent to the mass. No secretion could be expressed from the nipple. In the region of the left arilla there was a somewhat larger mass which in some areas was turn and in others soft and distinctly fluctuant. This mass was fared to the skin and the deeper structures. Roentgen examination of the chear revealed clouding of both spaces agos of bilateral batal pleutisty, caleffect hilms glands

and a marked increase in the pulmonary markings.

Because of the previous failure of conservative measures, radical resection of the breast with removal of the arillary structures was done. Section of the breast revealed areas of fibrosis containing small abscess cavities without definite areas of cascation. Inoculation of aguinea plg with material obtained from the breast showed tuberculosis. Histological examination of the tissue disclosed four

different types of reaction (1) typical tuberculous lesions showing little tendence, toward cascation and readily going on to selectoris (3) areas of diffuse lymphocytic infiltration particularly around the acini and blood vessels (3) areas of diffuse selectoris with small infilammatory foot and (3) distinctly granulomatous areas rich in blood vessels

with but few specific elements

The author reviews the literature and discusses the pathogenesis of tuberculosis of the breast. He concludes that in the case reported the infection was retrograde from the azillars lymph glands to the breast. He believes that the breast is rotinarily resistant to infection by the tubercle bacillus and that tuberculosis of the breast is relatively benign and may be cured by excision. Radical excision is to be preferred because it removes all of the involved lymph channels but in cases of early circumscribed lesions in young girls in whom cosmetic results are desirable local excision may be attempted. Care should be taken during the operation to prevent contamnation of the surrounding issues.

Peter J. Rost M D

TRACHEA, LUNGS AND PLEURA

Stirers G L.: Closing of Tuberculous Lung Carl tles by Intrapleural Pneumolysis New Far land J Med 1913 coval, 469

Extensive adhesions in the chest may be removed by wide thoracotomy but this operation is done only in exceptional cases. The procedure of choice in most cases is closed intrapleural pneumolysis which is performed through a small puncture would in the chest wall with the aid of the thoracoscope. The thoracoscope is usually introduced at the sixth or seventh intercostal space about 5 in from the spine. The cautery is inserted through the chest wall at a site depending upon the location of the bands to be cut

The most common varieties of adhesions are

1 String like bands, small in diameter varying considerably in length white and shiny and devoid of blood vessels and lung tissue. These are the type most often seen at operation. They are usually located in the lower two-thirds of the chest cavity.

2 Heavy very fibrous bands which are round and short and usually contain lung tissue to within a short distance of their insertion in the cheat wall. Their origin is frequently a cavity in the lung. They usually occur in the upper third of the pleural cavity and can be reached if the cautery is introduced in the third interspace at the anterior axil lary line.

3 A broad fan-shaped adhesion which is usually quite fibrous varies in thickness but is exceedingly broad is attached to a large area of the chest wall, and contains numerous blood vessels.

Not all of the bands seen through the thoracoscope can be severed. Anterior and posterior ad besions are often located so near the mediastimm and its great vessels that exuterization is contra indicated

The author reports a series of twenty cases in which artificial pneumothorax and intrapleural pneumolysis save favorable results.

JOHN H. GARLOCK, M.D.

Alexander J: Total Pulmonary Lobectomy: A Simple and Effective Two-Stage Technique. Surg Gyner & Obet 1935 lvi, 658.

The difficulty of the technical problems connected with total lobectomy is evidenced in the mortality of 53.4 per cent in 127 cases collected by the author in which recent improvements in technique were not applied. Alexander reports 18 cases in which there were 3 deaths, a mortality of 16 5 per cent, and describes the technique whereby the mortality was lowered.

The z types of lesions to which pulmonary lobec tomy is particularly applicable are the common central type of bronchlectasis and extensive outmonary abscesses which are sometimes associated with broth-

chlectasis

Therapeutic measures such as phrenicectomy a modified sanatorium régime, postural drainage, and conservative treatment of simus infections abould be

carried out prior to the lobertomy

Just before operation a dose of morphine without atropin which will not abolish the cough reflex is given The patient is placed in a 15-degree Tren delembars position on the operating table and under local anesthesia the sixth, seventh, and eighth ribs are resected from the tips of the transverse vertebral processes to the posterior axillary line. Nitrous oxide and oxygen are then given under positive pressure through a songly fitting mask and the parietal plears is widely inched. If plearal adhesions over the disrased lobe seem separable, the exposed parietal plears between the fifth and ninth ribs is completely excised to give free exposure of the lung.

If the adhesions investing the lobe seem tough and their division is difficult and slow the operation is abandoned and Graham a cautery pneumertomy is

carried out.

If the adhesions are friable, the lobe is entirely freed by finger dissection up to, and including, the interiobar fesure. The next step is very gentle stroking of every portion of the mediastical, costal, disphragmatic, and visceral pleurs (except that of the discused tobe) with dry gauge held on the fingers. Such stroking of the pleurs produces a protective barrier of sterile traumatic inflammatory exadate on and under the pleurs and causes the formation of firm adhesions between the entire lung and its investing parietal pieurs. As a result, the mediastinum becomes "stabilized. After completion of the stroking the wound is closed tightly in layers.

The traumatic effusion which comes may cliber be aspirated or removed by means of a fenestrated tube brought out through a stab wound. The free end of the tube is anchored beneath a sterlie solution in a bottle.

After the first stage postural drainage is contin-ued and only enough optates are given to relieve the pain without abolishing the cough reflex.

Twelve days later the second stage of the opera tion is carried out under nitrous oxide-oxygen angethesis induced under positive pressure to keep the newly adherent undiseased lobe from retraction from the thoracic wall. The wound is re-opened digitally the diseased lobe freed from its adhesious, and a liver needle threaded with 80 cm. of heavy braided allk passed through the hilum of the diseased lobe. The suture is divided and each ball of the bilum ligated tightly with the respective segment of ally before each pair of ligatures is made to encircle the entire hilum. A catheter with its distal end

clamped is introduced into the lower plenral cavity alongside the lung for intermittent instillations of Dakin a fluid, and the incision is tightly closed. After two or three days the incision is re-opened and the pleural space around the gangrenous lobe is loosely packed daily with acrifavine gause until the lobe falls away spontaneously

Other modern methods of lobectomy are critically considered. The author believes the success of the operation depends upon meticulous are operative, operative and postoperative care

FRANKLIN E. WALTON M.D.

GESOPHAGUS AND MEDIASTINUM

Parionekii J : Removal of Foreign Rodies from the Geophsons by Mesns of External (Esophagot omy (Beitracys zur Frage neber Entfernung der Fremekomper aus der Spelarrochre mitteln ausmarer Gesophagntonde) Von chir drek, 1932 zur 350-

The author bases his discussion on 112 cases. 71 of which have been published in the literature since 1019 (Hacker's statistics) to of which were reported to him in replies to a questionnaire sent to Russian surgeous, and a of which were his own.

For the removal of swallowed foreign bodies from the resonbagus non-operative and operative methods are employed. To the first belong (1) procedures in which the foreign body is removed through the month with various instruments or is pushed down into the atomach (2) removal under 1 ray control and (a) removal by means of the cesopheroscope. To the operative group belong (1) pharyngotomy (a) lateral tracheotomy (a) cervical and thoracic external orsophagotomy and (4) grattrotomy

In some of the cases reviewed the older methods, bringing up of the swallowed foreign body by means of various specially constructed coin catchers and ersophagus forceps and books or pushing it down into the stomach by means of knob bouries, were successful. However these procedures are associated with such great danger (injury of the cosophageal wall with subsequent fatal mediastinitis) and are so often unsuccessful that they are now usu

ally avoided.

Removal of the foreign body under \ ray control deserves more consideration as to a certain extent the entire procedure can be carried out under direct observation. Nevertheless, this method should be limited to the removal of foreign bodies with smooth surfaces it should not be used for the removal of im

pacted objects with sharp-pointed edges or ends.

The great majority of foreign bodies may be re moved with the resophagoscope. However this method fails in from 5 to 9 per cent of the cases and has a mortality of from 7 to 8 per cent even when it is used by experts. It should be employed only by specialists who have thoroughly mastered the art of

ocsophagoscopy

In a case of foreign body with sharp edges (bone or dental prosthesis), external orsophagotomy must be performed immediately if one or two attempts at esophagoscopic removal are unsuccessful. When an resophagoscope is not available as may be the case in rural districts operation should be performed as soon as the diagnosis is made without losing the time necessary to transport the patient to a specialist

When external esophagotomy is performed be fore the onset of complications it has a relatively low mortality (7 to 8 per cent) In the 142 cases re viewed by the author the operative results were recovery in 123 cases and death in 19 cases (134 per cent) The operation is classed as an emergency procedure and is regularly carried out as such in surgical centers

In conclusion the author warns against unneces sars operation for the removal of a swallowed foreign body and recommends that immediately before operation is undertaken an examination be made to determine whether the foreign body is in the assonhagus. He states that there are numerous reports of cases in which a foreign body known to be in the asophagus the night before the operation was found at operation the next day in the lower part of the gastro-intestinal tract G Auros (Z)

SURGERY OF THE ABDOMEN

MUNICIPAL WALL AND PERITORIUM

Koontz, A. R.: Preserved Fascia in Hernia Repair with Special Reference to Large Postoperative Hernien. Arch Surg 1933 trvi, 500.

The author reports a method for the repair of large postoperative hernize by the use of animal fascis preserved in alcohol. Following excision of the hernial sac the defect is closed by a running suture of strips of autogenous fascia lata. When the hernia is so large that the defect cannot be completely closed by anorodinating the fascial edges with these strices, closure is effected so far as possible with a running suture of preserved on fascus a free sheet of preserved ox fascia is sutured into the remaining defect by a continuation of the same stitch and a lacework re-enforring auture line of fescial strips as placed over the implant. In the cases of obese persons, serum tends to collect between the fat and famile. Therefore in such cases the author establishes drainage through a stab wound in the flank made in the most dependent portion of the undermined area.

JOHN H. CUHLOCK, M D

GASTRO-INTESTINAL TRACT

Cussoul M: Experimental Studies of Gaetric Plication (Ricerche sperimentali sulla 'plicatio postdos / Cile chr 931, vin 1200.

Genric pliration may be useful as a supplement to gastro-enterostomy. To ascertam whether it has any barmini effects on the function of the stomach, Cumani performed it is nine dogs and then examined the stomach histologically. He presents photographs and photomicrographs made in the cases of some of the animals. As he found the operation to be simple and without disadvantages, he concludes that it may well be included in the currenty of circumscrabed morbid processes of the stomach in man.

Empty T Lengt M D

Martidoff K. H. and Suckey G R.: Wound Heal Int by Autorior Gastro-Enterestrary Following Various Methods of Suture. An Experimental Brudy in Dogs. And Surg 1913, 2274, 345

In experiments on forty two dogs seven sutures methods were used in doing a guarro-enterostomy or gastrojejusostomy The suture material was to o allk or No 40 cateut. After the operation the dogs were given water as soon as they were able to toler ate it. On the fourth day milk and hamburger steak were added to the rations. On the sixth day ordinary branel food, milk and dried horse meat were given. No attempt was made to shield the gastro-intestinal wound from contact with course foods. The animals were killed with chloroform alz. nine fourteen, twenty and twenty-seven days after the operation and necropay was performed immediately

The objects of the experiment were to determine the state of wound healing and the degree of laftammatical after the different methods of suture to note whether seronal inclusions or cysts, which for brevity are termed appositional rests," would form on apposed serosal surfaces of the sastro-intestinal anastomosis and to determine whether structures called mucosal rests or inclusions" which are found in the operative area mausily on the intestinal side of the anastomouls and only after the use of silk

ligatures were present.

The types of suture were the following

The Council suture a continuous Method 1 through-and-through mattress enture of catgot Method a After the first tier of allk was placed. the stomach and intestines were incised and a continuous siture of catgut was placed as a through-

and-through lock stitch or buttonhole suture includ ing the entire thickness of both walls. Method 5 A continuous suture of catgut was passed from side to side the so-called "baseball

atitele Method a. This was the Raksted presection method, comesting of a single row of presection Halsted sutures of alla.

Method 5. This was a continuous second enture of catgot passed through all of the coats of the stomach and intestine after they had been incised.

Method 6 The first suture was a continuous su ture of alk. The stomach and intestine were then incised down to the submucosa and a continuous sature of cateut was placed through the seroes and muscularia, care being used not to plante the mucosa. The anicom was sutured with a continuous suture of categt.

aliethod 7 This was the same as allethod 6 except that the mucosa was not sutured, hierosatasis being effected by ligation of individual bleeding

The most rapid and uncomplicated healing was obtained by the use of a single layer of arrowthmucosal presection silk sutures (Method a) This fact was interpreted as indicating that experate soture of the mucous is not only nanecessary for rapid amousel healing, but is probably a retarding factor and therefore undesirable. The next most rapid bealing occurred after the use of Methods 1 (Connell suture) t (baseball stitch) and 6 (three-tier

From the standpoint of firm union along the line of apposition there was very little difference. In some of the specimens of early bealing after the use of Method 5 (ordinary continuous acture) most marked inflammators changes were discovered Mucosal healing was most rapid following the use of Method 4 (one layer presection suture) It occurred next most quickly mentioned in order of decreasing rapidity after Methods 3 6 5 and 1 Hetween the results of Methods 6, 5, and 1 there was little differ

When the mucosa had been pierced by a silk su ture mucosal inclusions developed in the intestinal wall. Eversion of the mucosa was found to cause displaced epithelium to develop in the line of gastroduodenal apposition and occurred frequently after

the use of Methods 3 and 5

The best healing of the posterior aspect of the gastroduodenal ostium was obtained after an inner row suture passed through all of the coats of the stomach as an ordinary continuous stitch or after a similar stitch passed through the serosa and submucosa, the cut edges of the mucosa being left free

Nothing that could be interpreted as a scrosslin

chaion was observed in this study

SAMURT J FOGETSON M D

Mclrer, M. A.: Acute Intestinal Obstruction. Third Installment im J Surg., 1933 xix, 579

The common sites of internal hernia are the intra abdominal fossa, which occur most frequently in the region of the ligament of Treits in the so-called losse duodenoleunalis and in the region of the function of the fleum with the execum Rarely an internal hernia is found in relation to the sigmoid in the intersigmoid fossa formed by the opening in the merocolon occurring on the left side of the alguroid over the bifurcation of the illac vessels. Extremely rarely the bowel may herniate into the letter peritoneal cavity through the foramen of Winslow Hermation may occur also through the disphragm and through openings in the mesentery omentum, and broad ligaments of the uterus. Such openings occur most frequently in the mesentery of the lower fleum and are usually circumscribed by an anastomous between the deocolic branch of the superior mesentene artery and the last of the intestinal arteries.

Congenital anomalies which may cause intestinal obstruction are of three types (1) atresas, (2) de lects in rotation which may cause volvulus, and

(3) Meckel's diverticulant.

Of the 355 cases of intestinal obstruction re viewed by the author a gall atone was responsible for the obstruction in 5 Gall stones large enough to produce fleus usually gain entrance to the in testinal tract by rupture from the gall bladder into the gat. They produce fleus either because of their size or because they incite a spasm of the intestinal musculature. Gall-atone lieus occurs much more frequently in females than in males. Of the 5 patients with this condition whose cases are reviewed by the author all were females. The symptoms may be acute in the beginning but are often subscute for a number of days or weeks be fore they become acute.

Acute intestinal obstruction may be caused also by accumulations of food foreign bodies such as hair balls and pieces of wood enteroliths composed of inorganic salts intestinal parasites, especially ascaris lumbricoides and bismuth and barium ad ministered by mouth for examination of the gastro ALTON OCTINGE M D intestinal tract

Akerlund A : Direct Roentgenological Diagnosis of Tumora of the Small Intestine (Zur direkten Roentgendiagnostik der Duenndarmtumoren) 1013 churut Scanda 1932 feel f

Hetetofore A ray examination was of little value in diseases of the small bowel until the stage of stenosis was reached and even then it permitted only recognition of the presence of the fleus and not the cause. Recent advances in roentgenological technique now permit a diagno is of turnot of the small bowel at a relatively early stage before the phenomena of obstruction have appeared diagnosis is based on a careful study of the shadow cast by the rugg of the boxel. Such examination with the aid of a contesst medium is indicated when ever persistent melana or symptoms of obstruction are present and ordinary \ ray studies of the stom ath and colon are negative. The opaque medium is usually administered by mouth, and its passage into the small intestine is facilitated by massage and having the patient lie on the right side. Fre quent fluoroscopic observations are made and senal roentgenograms are taken when indicated

The author reports four cases with positive roentgenological evidence of tumor infiltration of the small bowel without obstruction. The neonlasms were a hamanglosarcoma of the jejunum an adenocarcinoma of the colon with an ileocolic fistula



Fig 1 Hemangionarcoma of the jejunum.



Fig. s Lymphograpulomatoris of the small intestine.

adenocardnomators of the peritoneum and small intestine, and lymphogranulomators of the small intestine. The diagnoses were confirmed at operation.

The principal local reentgraological signs of tumor insilitation of the small intestine are a change of the normal mucosal relief in a circumscribed segment, rigidity and inclusation to apparation, tenderages and palpable resistance at the site of the neoplasm a commant filling defect niche formation with pensisting patches of opeque substance, and local prestronic preeded-divircinal formation. The reentgranological differential diagnosis between tomors and tuberculous inflictation, tuberculous strictures, adhesion strangulations, and normal peritatitic shadows is briefly described.

LEO M. ZODRERKAN, M.D.

Weber H. M.: Carcinoma of the Colon: Its Roent genological Manifestations and Differential Disgnosis. Am. J. Cancer 1933, 1931, 321

Roentgenological examination is essentially a special method of determining only those features of disease which are apparent to the eye and hand on direct examination of the specimen.

Carcinoma is by far the most commonly encountered malignant tesion of the colon. Sarcoma is extremely rare. Its gross features usually indicate its malignant nature, but a definite diagnosts is resultly only by microscopic examination.

Morphologically carcinomata of the colon may be classified into the following three groups (1) scirrbous or fibrocarcinoma, (2) meduliary or polypoid carcinoma, and (3) mucoid or gelatinous carcinoma.

The earliest roentgenological examinations of the large intestine were carried out with the use of the opaque meal. It is now generally agreed that this method is incapable of yelding adequate information reparding organic lesions although it is indicated in special instances. The investigative procedure of choice depends upon the method which will best demonstrate the deformity. The method demon strating the deformity with maximum efficiency is the use of the opaque creme.

Among the most valuable diagnostic procedures is a study of the relief patterns assumed by the mucoss of the intestine covered with a thin coat of opaque material

In special instances, when for some reason the use of opaque saits may be contra indicated hert gase may be used. It is possible to obtain a satisfactory outline of the colon by insufflation but the picture lacks the distinctness necessary for accurate diag node.

The significant recontegrological features of lexions of the color are their intruluminal situation and their failure to produce a reentgenologically demonstrable deformity in the contourn of the color. When the tumor is large and situated in a segment of the colon which is accessible to palpation, roentgenoscopic casmination will give reliable evidence of its presence

The diagnosis of curchnoma of the colon requires the demonstration of a filling defect. The filling defect is produced chiefly by protrusion of the growth into the lumen of the bowel, but partly also by the decrease in the distensibility of the infiltrated intestinal wall. The reentgenological picture is in fact the shadow of a bardum cast made with the lumen of the bowel as a matrix. When the outline of the colon distended with contrast material is found to be irregular the caminer must deter mine first whether the defect observed has an antonical basis or is due to causes without an anatomical basis or is due to causes without an anatomical basis or is due to causes without an anatomical basis or is due to causes without an anatomical basis such as local accumulations of gas, field and feedul matter in the colon.

Directiculità is encountered practically only in the region of the sigmoid. Hyperplastic tuberculosis, america granuloma, and myrodic affections of the bowel are designated as "specific granulomatical." They are much more readily distinguished from cardinoma than from each other or from nonspecific granulomatous leatons.

Rarely chronic ulcerative colitis, specific or non specific, involves only a short segment of the color Organic stricture is exceedingly uncommon except as a complication of chronic ulcerative colitis.

Early diagnosis of carcinoms of the colon is important. All changes in intestinal habit are in dications for a thorough rountgreakogical investigation of the intestinal tract. The author suggests that such an investigation might be included in routine verify examinations. Finney J. M. T., Jr : Appendicitis; Some Observations Based on a Review of 3 913 Operative Cases. Surg., Gynec & Obs., 1933, 1vl, 360

The author includes in his discussion only cases in which there was a fairly definite history of 1 or more attacks, definite disease of the appendix was found at operation, and the appendectoms was not com plicated by other operative procedures. On the basis of the history and the operative findings he divides the cases into the following 6 groups (t) chronic cases in which there was a history of discomfort rather than of a definite sharp attack and cases without more than 1 acute flare up. (2) chronic recurrent cases with 2 or more definite attacks and an interval operation (3) subacute cases in which operation was performed during or immediately after either a mild attack or an attack which was definitely subsiding (4) acute cases without rupture of the appendix in most of which gangrenous changes were found, (5) cases with rupture of the appendix and abscess in which there was evidence of an attempt to wall off the infection and (6) cases of ruptured appendix with peritonitis and little or no tendency toward walling off of the infection.

The mortality among males was 3 32 per cent and the mortality among females 1 20 per cent. The total mortality was 2 335 per cent. In the cases operated upon by the bouse staff the mortality was algightly higher than in those operated upon by the visiting staff. The difference is attributed to the fact that among the cases operated upon by the house staff there were 20 per cent more cases with rupture of the appendix. In the cases of ruptured appendix operated upon by the house staff the mortality was practically the same as the mortality in the cases operated upon by the visiting surgeon who had the largest number of cases and the widest ex-

perience.

The incidence of rupture of the appendix de creased from 4,8 per cent in the period from 1,000 to 1905 to 8 17 per cent in the period from 1,000 to 1935 of These figures are exclusive of the chronic and chronic recurrent cases. In spite of the decrease the fact that rupture of the appendix occurs before operation in 1 out of every 5 cases indicates that considerable improvement is necessary in the diagnosis and treatment of acute appendicits.

In an attempt to determine the reasons for the frequency of rupture of the appendix Finney in vestigated the frequency of the administration of exhantics in cases of abdominal pain. He found that catharities had been given in from 9 to 6 oper cent of cases of acute or subscute appendictis which thou terminate fatally in 20 per cent of the fatal cases of acute appendictis without rupture of the appendix, in 85 per cent of the fatal cases with rupture and abexes, and in 73 per cent of the fatal cases with rupture and peritonitis. Another factor of importance in the incidence of rupture of the appendix is the time at which the diagnosis of appendicults is made. Physicians should be able to recognize not only the more typical cases but also cases in which only the more typical cases but also cases in which only

the cardinal signs are absent. The findings of most aid in the diagnosis are a localized point of tender nest and a relative increase in the polymorphonuclear leucocytes. The leucocyte count as a whole is higher in the acute cases but is not an infallible index of the severity of the inflammatory process in all of the cases reviewed except those of acute appendicitis without rupture of the appendix the counts averaged slightly less in the cases of males than in those of females

A third important factor in the Incidence of rupture of the appendix is the time which elapses between the onset of the symptoms and operation Rupture may occur within forty-eight hours. In 2 cases reviewed it occurred within six hours. In the cases with peritonitis the mortality was 225 times the mortality in the chronic and chronic recurrent cases. Repture of the appendix increases also the length of time the pattent is obliged to stay in the hospital and therefore the cost of his lollars.

LS PLATT MD

LIVER, GALL BLADDER, PANCREAS, AND SPLEEN

D Amato Pascale and Chiariello.: Chronic Hepatitis, Including Cirrhosis (Epatiti croniche comprese le cirrosi) Clin chir 1932 vili 1443 1453

After reviewing the pathology of the different forms of chronic hepatitis and emphasizing the im portance of a functional examination of the liver in surgery the authors discuss the different surgical operations in the treatment of chronic henatitis. The latter include Talma s operation which is successful in about 50 per cent of the cases, the formation of an Eck fistula and Ruotte's operation which consists in grafting the saphenous vein into Bogovaz proposed suturing the the abdomen peripheral end of the inferior mesenteric vein into the inferior vena cava and has had some successful results from this procedure. Others have proposed continuous drainage of the ascitic fluid Lambotte suggested capillary drainage with fine silk threads.

All of these surgical methods act only on the mechanical factor of ascites, and while such action is of value the ascites is after all, only the result of the cirrhosis. The severity of the ascites de pends upon the condition of the liver cells and the reticulo-endothelial cells. Surgical operation is in dicated for the ascites only if the circhosis is not very far advanced the liver responds fairly well to functional tests, and the function of the other or gans is not very seriously affected. If there is any suspicion that the cirrhosis is syphilitic, anti-syphilis treatment should be tried before operation is considered. As patients with cirrhosis are usually in poor condition to withstand a serious operation, surgery should always be associated with medical treatment to improve the condition of the liver cells.

Cirrhosis of the liver is due to various causes. Neither the pathological nor the clinical picture is onliform in all cases. Accordingly each case must be studded individually. If there is reason to believe that the condition is caused by cholecyritist and angiocholitis, an operation on the large bill ducts may be tried. However serious harm may be done by too long derintion of the life from the intestine. In cirrhosts of the liver associated with splenomegally splenectomy has sometimes been successful.

Annur, Goss Monaus M.D.

Gohrbandt: Anastomosis of the Gall Bladder to the Stomach and Intestine (Anastomosen der Gallenblase mit dem Magen und Darmkanal) Zestreibl f Chr. 193 p. 2700.

Anastomosis of the stomach to the intestinal tract has been done for about forty-five years. Nossbaum was the first to perform the operation, and Winniwarter and Capeller repeated it a few years later

Anatomosis of the gall hadder to the stomach and intestinal tract is the method of choice in all irremediable benign or malignant strictures of the common duct and the papilla of Vater. The most favorable point of implantation, when there is no difficulty in performing the operation there is the doodenum as anatomosis at this site most closely approximates the physiological relationships. When the anastomosis cannot be made in the dwodenum it may be made supervised except in the transverse colon. The transverse colon is unsatifiatory because it has a high staterial content and because a large part of the bit cannot be used.

The indications for the operation are stenoses and atticuters of the common duct and the papilla of Vater which cannot be overcome by other means. Gohrhandt extends the indications to stones impacted in the common duct and the papilla of vater especially when removal of the stones would be a particularly difficult procedure which could not be much to their extends to the contraction of the man in thirteen such case. The first of the operations was performed seven years ago. Good results depend upon the evenculation of the bile. In addition, the author obtained good results from choiccystoloodenostomy in cases of hepsits stone.

In conclusion, Gohrbandt mentions another in dication for this operation. In the examination of patients who have been subjected to cholecystectomy be has found that, even when no technical errors were made, from 6 to 8 per cent compilation of severe postoperative symptoms within are merely a continuation of their pervious symptoms. It is interest ing that these are precisely the cause in which few or no pathological changes could be demonstrated in the state of the continuation of their pervious symptoms. It is interest in this stone was found in the remover gail biadder Gohrbandt has performed cholecystoduodenostomy in thirty cases in which no pathological process was evident in the wall of the gall biadder. To date the patients have remained free from symptoms.

In the discussion of this report HEYMANN confirmed Gohrhandt's observations concerning cholecratectomy with no grill-bladder findings. He stated that he had seen many similar cases, and when his patients continued to have pain he re-operated epose them if they desired it. He was never able to had any obstruction or any explanation for the colic except a certain amount of stasis in the region of the bill ducts. If at the second operation he provided for the outflow of bile by hepatoduodenostomy and gastro-enterostomy the symptoms were relieved.

PRIMEMANY advised caution to the determination of the indications for anatomosis of the gall bladder and the gastro-intestinal tract in cases of impacted atoms in the common duct or the papilla. He stated that the anastromosis of the clearficially contracted gall bladder may be very difficult or impossible and the gall stones themselves may produce symptoms.

Bins warned against useless re-operation which frequently aggravates the symptoms, and recommended the liver preparation choletonon which he has often found of value. E. Taxus (2)

Quick, B.: Acute Pancreatitis. Asserties & New Zeeland J Surg 1932 fl, 115.

The incidence of acute panerestitis is considerably higher than is generally believed.

During the past four years 40 proved cases wer admitted to the Alfred Respital, Melbourne case in every 578 admissions. During the sunperiod, 55 patients with perforated peptic uleer were admitted. This ratio roughly approximates that reported by Schmieden and Schening of the Frankfort Clinic—36 cases of patients that to 65 cases of per-

The view that the primary lesion, necrosis of the pancreatic Cells, is due to activation of ferment is rits is very generally held. The division of opinion occurs between those who accept the teaching of Mangrest Deaver, and Mann that the celinhar and other products of lymph-bonce infection constitute the activating agents, and those (the majority) who believe that the process is one in which some meleview that the process is one in which some meleview that the process is one in which some meleview that the process is one in which some meleview that the process is one in which some meleview that the process is one in which some melevation at the process is one in which some meleview that the process is one in which some melevation is one in the process in the melevation of the interest of the canalicular. This view may be referred to as the "canalicular" theory of origin of the canalicular theory of origin of

an implicit of the challeting theory of origin or pancreatitis as opposed to the theory attributing the condition to a lymph-borne infection, the author cites the following observations

r The high incidence of associated cholelithiasis (from 50 to 70 per cent according to various reports 61 per cent in the cases reviewed)

The case of production of experimental pancreatic necrosis following the forcible injection of sterile normal bile into the duct by syringe or the introduction of abnormal bile (infected, concentrated, mucin-free) under a pressure approximating the physiological maximum.

Of the 49 patients whose cases are reviewed, 29 were females. The ages of the patients ranged from fifteen years (male who died) to seventy-two years (male who recovered) Gall-bladder stones were

present in 61 per cent of the cases duct stones in 12 per cent and stones impacted at the ampulla in 6

per cent.

In several instances the common duct was found considerably distended without any demonstrable stone yet the bile which escaped on incision of the duct carried with it mucinous flakes or flocculi.

Acute pancreatic cedema was found in 184, per cent of the cases. This is manifested by a glassy ordema of the subperitoneal tissues over the pan creas and in the immediate neighborhood of the visible bile passages. The redematous fluid may be bile stained and there may be a peritoneal effusion similarly unged. Microscopic sections show no harmorrhage or necrosis of the pancreatic cells. The condition is analogous to that which Archibald produced in cats by introducing clean bile from the gall bladder of the cat into its pancreatic duct. Archibald has suggested that acute cedema of the pancreas may explain many attacks of pain of doubtful origin in the upper half of the abdomen

Acute hemorrhagic pancreatitis (acute cellular pancreatic necrosis) was found in 69.4 per cent of the cases reviewed. The atriking features are the occur rence of fat necrosis a lipase saponlification of the fatty tissues to which the ferment has gained access and more or less hemorrhage involving the nancreas.

and peritoneal cavities.

Acute gross pancreatic necrosis and suppurative pancreatitis were found with equal frequency in 12 2 per cent of the cases. In every instance the condition was discovered at autopsy. At laparotomy performed three days after the onset of the illness in a of these cases pancreatic cedema was found. The only treatment instituted was the insertion of a tube drain to the pancreas. No biliary decompression was done. Autopsy two days later showed that the lesion had advanced to inflammation and necrosis of the head of the pancreas. The fact that in no in stance was a definite suppurative process found in the pancreas before the lapse of twelve days suggests that bacterial invasion was not the direct cause of the primary condition. In confirmation of this theory is the fact that in no case in which operation included a satisfactory biliary decompression but death resulted later was any more advanced lesion of the pancress demonstrated at autopsy than was noted at operation. On the contrary the pancreas seems to have remarkable powers of repair

It is significant that no gross pancreatic necrosis has been unexpectedly revealed at operation or autopsy since the urinary disatase has been routinely estimated in all cases of acute infection in the

upper part of the abdomen.

In most cases of pancrestitis there is a history of previous attacks of pain generally ascribed to gall stones and often accompanied by jaundice. In 4 of the cases reviewed by the author an operation had been performed on the billary tract. Of the 4 cases without premonitory symptoms, death occurred in 2 in the other cases, mild attacks of pancreatic ordema may have been experienced.

The most important symptom is an agonizing pain in the upper part of the absonen which may be continuous or recur in increasingly severe attacks of colic and is seldom, if ever, relieved by morphine Especially significant is epigattic pain radualing to the left hypochondrium and the back loun or shoulder. In the authors opinion the pain is due to in creased intraductal pressure and is comparable in origin and severity to thilary and renal colic.

Tenderness is always present and is usually maximal in the epigastrum. It is most significant when it is more pronounced in the left hypogastrum flank or loin. When it is combined with tenderness in the right hypochondrum an associated gross

cholecystic disease is probably present Comiting occurs in a variable degree in practically

every case

Other signs and symptoms are extraordinarily protean. Rigidity of the upper abdomen is commonly present in some degree but sometimes may be completely lacking. Collapse is not constant at the outset. Constipation and inability to pass flatus after enemata may lead to a diagnosis of intestinal obstruction although distention is rarely general Slight jaundice has been noted. Peculiar to the disease is a slight cyanotic tint most obvious in the face. Loewe a sign has been found entirely unreliable but the estimation of the urinary disastase has not failed to confirm or refute a clinical diagnosis of acute pancreatte disease.

The diagnosis depends upon the history and a study of the symptoms and signs mentioned. The possibility of acute pancreatius must be borne in mind in the examination of all patients with an acute condition developing in the upper part of the abdomen. Acute pancreatitis is confused most for quently with acute cholecystitis, perforated peptic ulcer intestinal obstruction acute appendicitis diaphragmantic pleurity and perforation of the call

bladder

It is impossible to avoid the conclusion that timely treatment of pre-existing chronic biliary disease would have saved many of the patients who died. In I instance the attack occurred between the roentgen demonstration of non filling of the gall bladder and the patient a admission to the hospital for operation In 4 cases a previous operation on the biliary tract had been performed. In none of these had operation been complete and satisfactory for in a of them a common-duct stone was found, in r cholecystectomy was impossible and in r the ducts were not explored when a calculous gall bladder was removed. The author rejects the widely accepted teaching that cholecystic disease should not be operated upon until the acute symptoms have subsided as he believes that many disasters have followed non recognition of pancreatitis and valuable time has been lost in palliative and expectant treatment.

The canalicular theory of origin of pancreatitis as opposed to the theory attributing the condition to lymphatic infection is supported by the following

facts

x It is difficult to reconcile the sudden oeset in many cases or a history of remissions and intermis-

sions with an inflammatory process.

- 3 The not very rare localization of the disease to the tail of the pancress with exemption of the head speaks against lymphatic spread from the gall bladder
- Relief of pain follows decompression of the duct system.
 Dilatation of the gall bladder and common duct
- is frequently seen both at operation and autopsy even in the absence of common-duct stone. 5. Direct evidence of idilary extravasation has been observed in the peritoneal effusion and in the

ben observed in the peritoneal effusion and in the pancreatic duct and parenchyma. Moreover in roase like continued to be discharged from a sloughing pancreas at a time when the cholecystostomy was demonstrated on further operation to be healed.

Because of these facts the primary aim of surgical treatment should be billary decompression which, by preventing further retrojection of an abnormal bile

into the pancreas, will limit pancreatic damage.

At present surgery can do little or nothing to avert
the consequences of the free sheiding of activated
ferments into the areolar tissues around the pancreas. Only in cases in which gangrees abscess or
total sloop of the pancreas has occurred or seems inevitable is peritoneal incision over the pancreas advisable.

In the author's opinion, the alms at operation should be (1) to free both the greater and the lener are of effusion, particularly effusion which is blood stained, (3) to bring about a satisfactory billiary (and thus parenestic) decompression, untuily by opening, exploring, and disning the common durt, and (confirm the common durt, and (confirm makes probaggation of the operation makes probaggation of the operation makes

Cholecystostomy is less satisfactory for biliary de compression than opening of the common duct, but may be necessary because of old adhesions or huge swelling of the head of the transpers.

aweiling of the head of the pancreas.

The indication for cholecystectomy is relative.

This operation is concerned with the future welfare

of the patient and may be postponed.

When gross necroils or a frank supportative proc

ess is found in the pancress, general surgical principles should be followed.

In conclusion the author says that earlier diagnods followed by suitable operative treatment in

In conclusion the author says that earlier disp nots followed by suitable operative treatment in cases of acute pancreatic necrosis will result in a decrease in the present mortality of approximately so per cent (his own case, 38 z per cent)

J LOWIS KIRKPATRICK, M.D.

GYNECOLOGY

UTERUS

Schiller W: Early Diagnosis of Carcinoms of the Cervix. Surg. Gynce & Obst., 1933. bl. 210.

Early diagnosis and treatment are the only means we have today of improving the results in the treat ment of carcinoma. There is no doubt that early operation and the application of irradiation before wide extension of the cancer decidedly improve the prognosis. If the carcinoma is internal and therefore cannot be seen, early diagnosis is difficult and probably depends upon a general reaction yet to be discovered the presence of which may be revealed by examination of the blood urine, scrum or skin. Of course if diagnosis were thus possible it would still be very difficult to find the site of the tumor the present time in spite of the high standard at tained in the study of cancer we are far from reach ing this goal Somewhat more favorable are the possibilities of detecting cardnoms of the epithelium in areas readily examined with the eye as for in stance, the skin mouth penis, vagina and cervix. In any case the main thing is to be able to make a diagnosis during the earliest stage this can be done only if patient comes for consultation during that stage.

An examination of the region immediately surrounding a large carcinoma of the cervix reveals that in most of the cases the growth is separated from the normal epithelium by a small inflammatory zone free of epithellum. Wherever the carcinoma penetrates from the surface into normal tissue there is a narrow zone of inflammatory infiltrated con nective tissue not covered with epithelium or with cancer Although in a small percentage of cases the carcinoms is in direct junction with the surrounding normal epithelium (so that the normal epithelium does not project over the downgrowth) the carel noma forms a surrounding superficial layer of about the same depth as the normal epithelium which is definitely marked off. Schottlaender and Ker manner were the first to notice the superficial nar row layer They called it the "carcinomatous super ficial layer" Schiller has noted also that when in one spot carcinoma is marked off from normal tissue by a zone free of epithelium the growth is usually wholly surrounded by such a zone free of epithelium, and if there is a carchomatous layer in one place the growth is always completely sur rounded by such a carcinomatous layer Obviously the kind of demarcation depends on the biological nature of the carcinoma and of the organism in which carcinoma develops.

The question arises Is this carcinomatous layer a part of the carcinoma? On the basis of the char acteristics of advanced carcinoma the answer must

be in the negative for the carcinomatous layer is not superficially ulcerated and it does not invade the deeper tissue Veither is it definitely marked off from the connective tissue nor does it show a tendency to penetrate deeply by single cells or groups of cells. From the old point of view carcinoma is diagnosed only when it penetrates deeply and then the carcinomatous layer is separated from the car choma and is considered a surrounding region not a carcinomatous zone from the histological point of view, however this hypothesis is altogether wrong because the layer shows the characteristics of carcinoma-atypical and polymorphous cells and frequently numerous mitotic figures. Moreover there is no histological difference whatsoever in the area where the cardinomatous zone passes into the deeply penetrating carcinoma while there is a distinct histological difference at the point where the carcinomatous layer is marked off from the epithelium. Therefore the carcinomatous layer must be considered part of the carcinoma.

In this early type there is no downgrowth or metastasis, two phases in the development of carcinoma. However downgrowth is bound to occur Sometimes it appears early, but sometimes it most appear for months or years. This is true also of metastases. It must be emphasized however that carcinoma does not always show downgrowth. There is an early stage of carcinoma with tissue changes characteristic of this stage of development—for in stance, the cell changes the appearance of atypical and polymorphic cells—in which the growth has not begun to penetrate the deeper tissue

The application of the term precancerous to carrinomatous layers seems to carry two different meanings. By some the term is used to designate a growth which may become a carcinoma while by others it is employed with reference to a growth which is bound to become carcinoma. As long as

the term precancerous has more than one meaning it should be avoided

As the demarcation between the carrinomatous layer and the normal epithelium is always distinct it is possible to indicate the exact point to which the cardinoma reaches and the normal fissue begins. Areas of transition are nowhere to be found nor are there transitory cells. Occasionally we can see within the normal tissue near the borderine single dark cells which, from the morphological standpoint are characteristic of cardinomats. The line of demarcation is always oblique and always proceeds so that in the basel part of the growth it reaches farther than the normal epithelium reaches on the surface, I e. the cardinomatous layer is wider at the base than on the surface. Cardinomatous epithelium is characteristed also by the fact that the superficial is characteristed also by the fact that the superficial

layer which in normal spithslium consists of large vectorial light cells with small shumken nuclei or rests of nuclei, is missing. This superficial layer which is typical in the spithslium of the cerviz normally the spithslium of the cervix does not above parakeratosis—is filled with glycogen as is proved by staining. As Schaffer pointed out the squanous epithelium undergoing differentiation may be transformed into hom or may collect glycogen. In the spithslium of the cervix the latter property is characteristic, and the glycogen disappears when the exhibition becomes a satisfactories to see

After Schiller had succeeded in determining the appearance of the earliest stages of excisiones the question arose as to how the earliest stages could be recognized disinfally. By a most careful comparison of the appearance of the macroscopic operative specimens with the appearance through the speculum it was found that to the naked eye the smallest car chosents resemble small, white opaque dull, some times also allyhirly wrinkled spot in the smooth white trumwarmst erithelium of the careful.

With the naked eye it is impossible to differentiate between carcinomatous leavoplakia and hyperker atotic beacoplakia. With Himselmann's colposcope, by which the field can be strongly magnified and it is possible to examine the cervix precisely several interesting morphological testian repartial elucoplakia may be discovered, but the instrument does not make it possible to distinguish with certainty between carcinomatous lencoplakia and hyperker astello electrolistics. This differentiation can be made

only by histological examination

The dinkeal diagnosis of lencoplaths is sometimes made difficult because the affected area is so small that it cannot be easily seen with the naked eye. The ecloscope often shows such areas more distinctly but as the colposcopic field of vision is relatively small, it is necessary to examine carefully the whole cervix from the criterial os to the formlx in order to find such leucoplatur areas. An examination of this kind requires skill and time. In a crowded out-patient department it is hardly possible to examine a cervix for such minute detail. Moreover it is no doubt true that cervices which appear normal to the naked eye often harbor small incipient carefundmats.

Some method had to be found to locate the sunpicious ports more easily and quickly. Sofiller discovered such a method vital staining with Lugals solution. A startling revealation was made—the fact that the normal cytichellum of the cervis contains in its superficial layers glycogen may be stained on the stife with Bert's carmine and in the living patient with fodine potassiom solide solution. When the normal cervis is painted with technary Lordon to the control of the patient of the control cervis of the cytichellum acquires in from one-half to one minute analoganty between color flowers in the areas in which some pathological process is present no brown staining takes place and the epithelium remains white and unstained. Thus, diseased spots in the epithelium which escape the naked eye altogether and can be found only by systematic and painstaking examination of the cervix with the colposcope are made visible in about a minute. The technique used in painting the cervix is an influent.

A cervical speculum is placed in the vagina and from 10 to 15 ccm. of Lugola solution are poured out of a cup with a long spoot, spread with a tampos over the cervix, and left in the vagina for about a minute. The lodine solution is then sucked off with a tampos and the cervix and vagina are decased of the excess liquid and gently wheed. It is very access you the solution to mostern the entire cervix and that there should be no fald preventing the extrance of the liquid. If the epithelium shows an unstained spot we must be suspicious of cancer and the liquid. If the possibility is the presence of the fall of the presence of the following four possibilities.

 The presence of carcinomatous layers or indpient carcinomata.

2 The presence of hyperkeratosis due to prolapse or descensus vaging.

3 The presence of hyperkeratosis due to hietic infection.

4 Desquamation of the upper layers of gircor cross epithelium caused by touching of the cervit with sharp instruments or rough insertion of the speculum. Such traumatic desquamations can be easily diagnosed from their form, as they resemble narrow sharp and straight-line scratches.

The decision as to the lignificance of the unstained spot of epithelium can be made with certainty only by microscopic examination. Coposcopic examination atoms does not give sufficient evidence in all cases. As the change involve only the superficiel epithelium Schiller does not use the V-shaped or ploratory excision to obtain material for histological examination. It is sufficient to scorpe of a small examination. It is sufficient to scorpe of a small examination with the small state. The superficient expensive properties of a small expensive properties of a small expensive properties of a small examination of the superficient examination. The superficient expensive properties of the superficient examination of the superficient expensive properties of the superfi

Pointing with lookine is of value in locating the correction are replaced in the value in locating the composition and the same and the composition are replaced in the same and the same are replaced in the same and the same are replaced in the same and the same are replaced in the same are replaced in the same are replaced in the same are generally larger and more extensive and their ore easily visible. Moreover they are surrounded eventually by a line of demarcation of cardioonatous extibelium—a white superficial stripe around the ulcration. When a scraping is removed for diagnosis the white stripe—not the ulcratic part or the see mal brown epithelium—should be scratched off. The simple croked is covered on the surface by infanned connective tissue, but later during the first stage of bealing, it is covered by cylindrical epithelium. In

both instances the erosion has a more or less dark red dull velvety color to the naked eve. It becomes only slightly stained with lodine solution. It cannot be mistaken for the white superficial carcinomatous layers. The tissue for diagnosis should be taken from the white layers, but never from within the dark

red eroded or ulcerated parts

In conclusion the author says that if every woman would have a Lugol test twice or three times a year it would be possible to locate carcinoma of the cervix in its earliest stages and give immediate treat ment that, especially with improvement in post operative roentgen irradiation would raise the incidence of complete healing from 95 to 100 per cent Such a routine examination would not involve great expense and would not require special instruction of CARL II DAVIS, M D the gynecologist

Haunt W Results of the Treatment of Cancer of the Uterus at the Gynecological Clinic of Bonn Since 1912 (Die Behandlungsergebnisse der Bonner Frauenklinik bei Gebaermutterkrebs seit 1012) Straklentherepie 1032 aliv 311

Between April 1 1012 and March 31 1020 403 patients with cancer of the uterine cervix were treated at the Gynecological Clinic of Bonn. In the period from 1912 to 1915, the operability was 68 per cent in the period from 1915 to 1926 43 per cent and in the period from 1926 to 1932 28 per cent The author attributes the striking decrease in oner ability to an increase in the number of advanced cases with a simultaneous increase in the total num ber of patients admitted to the hospital.

In the period from 1912 to 1915 operation was done in all operable and borderline cases whereas in the period from 1915 to 1921 it was done in only 89 per cent in the period from 1921 to 1926 in 15 per cent and in the period from 1926 to 1932 in 38 per cent. In recent years \ ray or radium irradia tion has been employed regularly after operation whereas formerly bradiation was not always used. Of the patients subjected to operation 89 per cent were operated upon by the abdominal route and 11 per cent by the vaginal route. In most of the in operable cases the treatment consisted of irradiation In the period from 1912 to 1915 \ ray therapy alone was used, but since 1015 both \ ray and ra dium irradiation have been employed

Roentgen my treatment is given with a filter of o 7 mm. of copper and 1.0 mm, of aluminum and a distance of 30 cm. The exposed field measures 20 by 15 10 by 15 6 by 8 or whatever is necessary to meet the anatomical requirements. The voltage is 170 kv and the amperage 4 ma. Each field usually receives a skin dose of 500 r The irradiation is com pleted in one day or on two or three successive days. The treatment is repeated after three months and again after nine months, sometimes with a dose of 300 r The first irradiation is given about eighteen days after the operation.

For radium irradiation, 45 mgm of radium element are usually applied for from forty-eight to

fifty four hours. It is filtered with 1 2 mm of brass The treatment is repeated once or twice but not before ten days after the first treatment. Within three, or at the most six weeks, from 6 000 to 6 500 mgm hrs of radium irradiation are delivered. Since 1925 a larger amount (from 80 to 105 mgm) of radium element has been used and the time of application has been proportionately decreased fractional irradiation an average of 2,000 of at most 1 000 mgm hrs is given When possible the ra dium is applied not only in the cervical canal but also in the corpus of the uterus. The dosage is such that the uterus receives about two thirds and the vaging one third of the irradiation kecently from 120 to 200 mgm hrs. of radium have been applied directly to the operative field after surgical removal

Of 350 cases treated in the period from 1015 to 1926 the incidence of cure was 41 6 per cent (6 cures in 140 cases) in the operable and borderline cases and 10 o per cent (40 cures in 201 cases) in the inoperable cases. The results of operation were improved by careful selection of the patients for surgr cal treatment. In the period from 1912 to 1931 the operative mortality was to 3 per cent whereas in the period from 1922 to 1931 it was only 14 per cent The absolute incidence of cure was 20 1 per cent

The figures show that when on the ba is of care ful selection, patients with easily operable carcinoma. of the uterus are treated by operation followed by irradiation and the others are treated by irradia tion a higher incidence of cure is obtained than by operation or irradiation alone

In the period from 1912 to 1915, 10 patients and in the period from 1915 to 1926 62 patients with cancer of the fundus of the uterus were admitted to the Clinic. Of the first group, so per cent, and of the second group, 93 per cent were operable. The in cidence of cure in the 2 groups was 50 and 63 per cent respectively. The treatment of choice was surgical removal. In 30 cases total extirpation was done by the abdominal route and in 15 by the vaginal route There were a deaths. In 28 cases postoperative irra diation was given, but without apparent improve ment of the results. The author advises against treating operable carcinoma of the fundus with irradiation alone

In the period from 1915 to 1926 there were 41 cases of recurrence. In 31 the recurrence appeared after primary cancer of the cervix in a after cancer of the fundus and in a after cancer of the vagina, In 33 cases of recurrence of uterine cancer 3 cures were obtained by radium and \ ray treatment

WILLE (G)

EXTERNAL GENITALIA

Schulz, K.: A Clinical and Statistical Study of Carcinoma of the Volva (Zur Kasulstik und Statistik des Vulvacarcinoma) Zeniralbi f Gynosk., 1932 P 1364.

The author describes an unusual large carcinoma of the vulva which had been noted by the patient from six to seven years previously, but was not recornized as carcinoma by the physician consulted at that time. Following the report of this case he elves statistics on carcinomate of the vulva observed during the past twelve years at the University Gynecological Clinic at Jena. There were forty three cases, the frequency being 11 per cent. The ratio of carefroms of the nterus to carefroms of the subsa was 100 4 5. Carringma of the volve was most common between the sixth and seventh decades of life, but one-fourth of the women were between forty and fifty years old and the youngest nations was thirty three years old. The most common site of the legion was the labing mains, the next most common, the labing minus, and the least common the cilitaria. In one instance Bertholin a gland was affected, and in another the posterior commissure. In to per cent of the cases involvement of the lymph elands could be demonstrated. Histological exam nation disclosed somemous-cell enitheliams in every case. Cancroids were found in thirteen cases. In three cases the condition was incorrable. In only one case were the lymph stands on both sides removed with the carringma. In the other cases the correction was limited to removal of the carrinoms. as far as healthy tieme.

Of the ten women who were operated upon, four died of recurrence and two of Intercurrent diseases. The rest are still living after periods of from five to ten year. Two have remained free from evidence of the carchoma for from six to seven years. The result in more case is remarkable as the woman is still allive ten years after the first appearance of the valvar carchoma, in spito of the fact that she has been operated upon twice for recurrence. Of the versety-three women with carchoma of the vulva who were treated and have since been under observation for more than froy years, three have remained well. The incidence of cure was therefore that the versety-three three remained well. The incidence of cure was therefore the other than the property of the prop

Gehorum, E.: Primary Sarcoma of the Vagina and Its Treatment (Das primare Scheidemarkom und seine Behandlung) 937 Munich, Disserta tion.

The author differentiates two forms of sarcoms of the vagma, the nodular and the infiltration. The nodes vary in size between that of a walnut and that of a fist. Only a few of them are covered by smooth mucous membrane. As a rule, the surface shows nicerating degeneration and bleeding. The turnors are either broad based or pedanculated, and are evnerally adherent to the underlying structures. In consistency they are sometimes firm and sometimes soft and elastic On section, they are usually found to be white, homogeneous, and marrow-like. The infiltrating type is considerably less common than the nodular type. Microscopically the most common are the spindle-cell sarcomata. Next most common are the melanosarcomata and the angioplastic forms. Metastases are generally rare. The growth is essentially continuous, spreading to the rectum, uterus, and privic connective tissue. As a

rule the prognosis is equally unfavorable after oper ation and after treadlation.

A case in which a tumor the size of a pigeon aggress from the theoretic wall of the vagins is reported from the Gynecological Clinic at Menich The tumor was movable, alguly nodular, and bolated. A biopsy specimen removed with a distherm celetrode showed it to be a round-cell starcona. It radiation of the hypophysis was first given as supporting and sensitizing therapy as is urally done at the Docederisin Clinic. The tumor was firmdisted abdominosacrally and treated also with mentionium. For months later the book weight had not used to the property of the control of the property of the prop

MISCELLANGOUS

Falkiner N McI: A Study of the Structure and Vascular Conditions of the Hamen Corpus Luteum in the Menatural Cycle and in Prejmancy Iritis I II Se 1014 No. 85 D. L.

The changes that characterize the endometrium during recempney and the menatrual excludes been extensively studied and are well understood. How ever the differences between the corners lateum of menstruation and pregnancy have not been very definitely described. A comparison of the corpus luteum of menatruation during its degenerative stage, namely just before and during menatruation. with the corpus luteum of very early presented is lorical as both are structures of the same are under going very different changes. Conflicting statements concerning the histology of the coroses interm from its formation to its desceneration in the menetroal evels are quoted by Falkiner from outstanding text books on obstetrics and gynecology Hartmann has contended that an active substance originating out side of the ovaries is the cause of the periodical bleeding which we call menstruation, and concludes from experimental evidence that this substance originates from the anterior lobe of the pitultary gland. It would seem that coincident harmorrhage in both the endometrium and the corner luteum might occur as in each structure there are newly formed blood vestels of a capillary nature and if a substance produces hemorrhage in one it is likely to do so in the other. To obtain evidence bearing upon this particular aspect of the saxual cycle in the human female, the author studied corpora intea in the various phases of the menstrual cycle and in cases of pregnancy which were resected with the utmost care to avoid trauma to the delicate structures. material furnishing the basis of his report consisted of cornors lutes removed on the fourteenth, twenty fifth, twenty-seventh, first, and third days of the cycle from two cases in which pregnancy terminated five days and fifty-six days respectively after the first missed period. The clinical history and mlcroscopic picture of the tissues are reported in detail and the vascular conditions of the corpus luteum are shown by diagrams.

In its highest form of development the corpus luteum is essentially a mammalian structure, but it is particularly well developed in the monotremes which differ from the mammals in being oviparous. There is no doubt that it has a very great influence during the early stage of pregnancy, particularly in the embedding and the subsequent nutrition of the ovum. However, after the embedding has been com pleted its influence on the subsequent course of the pregnancy differs in different species of mammalia Placentation differs tremendously in mammalia, and it seems reasonable to conclude that the structures and life history of the corpus luteum bear some relationship to placentation. As placentation increases in complexity in the mammalian scale the tendency to abort when the corpus luteum is removed de creases.

From his studies the author concludes that in mammals in which there is a placenta hæmochorialis (chorlonic epithelium invades the maternal vessels) the most important factor to be considered in the uterus and corpus luteum is the vascular arrangement. Hemorrhage occurs in the corpus luteum at two stages in the menstrual cycle. The first bleeding takes place at the time of ovulation. It is variable in amount and by many its occurrence is doubted. This hemorrhage is traumatic and localized The second hamorrhage occurs at about the time of the onset of the menstrual flow and is generalized throughout the terminal capillaries which border the corpus tissue dividing the luteal cells from the central cavity When hamorrhage occurs in the corpus luteum it marks the end of the career of the corpus luteum as a gland of internal secretion as the resulting disturbance in the circulation precludes the possibility of an uninterrupted circulation through the structure which of course, would be necessary for transference of the internal secretion. When pregnancy super venes, no hemorrhage occurs and the corpus luteum persists as an active organ of internal secretion. The period to which this activity is prolonged in the human female is doubtful. The author believes that the number of cells in the corpus luteum cannot be increased and that secretion is prolonged until the individual cells become senile there being then a gradual withdrawal of the secretion which probably ceases to be important as early as the second month of pregnancy. Recognition of contemporaneous harmorrhage in the uterine mucosa and the corpus luteum will lend support to Hartmann a work which has already done much to explain the mensitual cycle in primates.

ALICE F MANYELL, M.D.

Werner A A., and Collier W D: The Effect of Theelin Injections on the Castrated Woman J 4m M Att., 1933 c, 633

The authors report the use of large doces of theelin in the cares of five castrated women. In four of the women the uterus was still in place. The docages were divided into three periods of twenty-right days each. Two bundred rat units were administered daily in the first period. 300 in the second, and 400 in the third.

In all of the patients a beginning activity of the breasts was noted from the lourth to the tenth day after the institution of the treatment. In all of the patients except the one who had been subjected to bysterectomy bleeding occurred at intervals during the course of injections. The periods of bleeding varied in number from two to four and were characterized by the symptoms usually associated with mensituation. In the hysterectomized patient the cervix became more vascular and there was a mucous discharge. After three weeks of treatment curettage showed as endometrium closely resembling that of the interval phase.

All of the patients treated were relieved of their subjective symptoms from six to twenty days after the beginning of the treatment.

HENRY S. ACKER JR M D

ORSTETRICS

DESCRIPTIONS OF COMPLICATIONS

Gemmell, A. A. and Murray, H. L.: Two Cases of Simultaneous Intra-Uterine and Extra Uterine Pregnancy, with a Review of the Recorded Cases. J. Okst. & Gymer. Brit. Emp. 1933. 1, 57

Following a review of 213 cases of simultaneous intra-olerine and extra sterine prepanacy collected from the literature, the authors report 2 cases in which enlargement of the uterus was associated with a fairly definite picture of extra-ottem pregnancy. In the first of their cases laparotomy disclosed a lettus between twelve and fourteen weeks of age and when the uterus was incised a twelve weeks fetter was fourteen.

In the second case, the left tube contained the curre-oriente fetus and was enlarged to the size of a sausage. This tube was removed, but the fundus of the uterus, which was blue and enlarged to the size of a twelve weeks preparancy was not disturbed. The patient went on to term and was delivered normally

Some of the cases reported in the literature as cases of simultaneous intra-uterine and extra uterine pregnancy were in reality cases of twin pregnancy in a falloplan tube or of pregnancy in

both borns of a bicornate uterus.

The mortality of simultaneous Intra-uterine and extra-uterine pregnancy is so, per cent. The condition is most frequent between the ages of twenty five and thirty five years. Statistics indicate that its occurrence is favored by previous pregnancies and labors.

The cases reported in the literature are divided by the authors into the following a groups

Group 1 Sixteen cases in which the condition was first discovered after death. Apparently no special surgical care was given. All but 1 case were recorded prior to 1801.

Group 5. Forty-one cases in which the condition was discovered sifer labor. In this group there were 6 deaths, a mortality of 1,6 per cent. Half of the patients had no symptoms before or after delivery. This group shows that the exirs uterine fetus may be removed safely after delivery of the notion fetus.

Group 3 Twenty cases in which the condition was discovered in the second half of pregnancy or during labor. There were 7 deaths, a mortality of

35 per cent.

Group 4. One hundred and forty cases in which the condition was discovered in the first half of prepancy in 47 it was discovered after and in ninety three before abortion of the niente ovum. In the former there were 7 deaths, a mortality of x5 per cent. Most of the deaths were caused by

thock or hemorrhage, but x was due to sepsia. Abdominal section was performed in 30 cases with 5 deaths, a mortality of 13 per cent. In the 93 cases in which the condition was discovered before shor tion of the sterine ovum there were 9 deaths, a mortality of 2, per cent.

The authors attempted to accretain the factors which determine whether the ateriase preparacy will continue or will be cast off. From their finding they conclude that there are no definite criteria on which to have a propertied of the fate of the later.

atedae aan

Their studies showed also that a fetus retained in the abdominal cavity is not proce to give rise to symptoms, even when it is associated with an intra uterine pregnancy and that it is not likely to cause difficulty in labor 11 C EVELICE ALD

Lapsyre J L.: Interetitial Pregnancy (Groment interstiticity) Grade of also, tong year, Ar

Interstitial pregnancy occurs more frequently than is commonly supposed and presents many diagnostic and therapeoutle problems. The subsecites the numerous theories advanced to explain the pathogenesis of the condition. None of them adequately emplains all cases.

The chief histological characteristics of interstitial pregnancy are the absence of a true decidua, the presence of masses of fibrin, and penetration and distant invasion of the uterino musculature

by the placental villi.

of the patential variable. Most often the ovum raptures into the abdominal cavity occasionally into the neither cavity and in a few case into the broad ligament. A very young ovum may die and become abnorbed but after the death of a fette the syncythum may continue to invade the material organ. Following rupture, prompt surgical later vention is necessary to prevent death from internal hemorrhage.

The diagnosis of interstitial prepasacy is selected. The diagnosis of interstitial prepasacy is selected in the differential diagnosis, intunic prepasacy trials prepasacy in the differential diagnosis, intunic prepasacy in the prepasacy is the constant of the property in a strent in lateral factor can be differentiated by sumining the patient in the Trendelenburg position. Told prepasaches are silmated below the level of the utrine fundus and occupy the posterior caldester. The presence of a soft unor at one side of the fundus and in a plane above and anterior to the fundus and in a plane above and anterior to the fundus indicates either an intentitial prepasacy or a prepasacy situated in the uterus at an aspical section of the presence of the different prepasacy at the same prepasacy is covered by few muscle fibers, pulpation of the mass will not elicit the alternate contraction and relaxation which we

LABOR AND ITS COMPLICATIONS

Rudolph, L., and Ivy A. C.: Internal Rutation of the Fetal Head from the Viewpoint of Comparative Obstetrics. Am J. Ohn. & Gyssc Jan XXV 74.

The basic factor determining the presentation and position of the fetus is the postural tone of the The attitude of the head uterine musculature. in the presence of normal cephalopelvic relations is due to the integration of three factors, namely a harmoniously contracting uterus, the resistance to egress, and the unequally balanced two-armed lever that exists between the vertebral column and the head. If the force transmitted through the fetal spinal column is misdirected by improper coordination of the upper utering segment or if the lower uterine segment or cervix is more atomic or yielding in one portion than another the lever action will be modified or abnormal. By rotation the fetal back anteriorly the uterus assists anterior rotation of the occiput. With the occiput right or left anterior the levatores and, the decreased resistance of the vulval slit, and the larger anteroposterior diameter of the outlet may rotate the occiput anterforly Rith the occiput in a transverse or a posterior position, the head well flexed, and the uterus coordinating and contracting adequately the vertex is deflected anterlorly in a segittal plane on striking the pelvic floor and a two-armed lever action operates in a vertical plane to rotate the forehead posteriorly and the occiput anteriorly about the vertex or occipito-atioid articulation as an arie.

A mechanism for typical and atypical delivery of the shoulders in occiput-posterior positions is described.

A brief description of the comparative anatomy of the pelvia and the comparative physicology of the uterus in labor is given, and the results of a roem genographic study of the delivery of the fetus in the dog are reported. On the basis of their studies the anthors conclude that In lower animals the uterus is primarily responsible for placing the fetus in a document of position for physicological birth.

In conclusion the authors die certain observations made in the case of luman females which may be interpreted as indicating that the uterus rotates the trunk and head. Whether this is due to the emistence of a uterine property of "spiral action" cannot be stated on the basis of the evidence at hand. Everant L. Covern, M.D.

Greenhill, J. P.: Local Infiltration Amenthesia in Obstetrics. Seeds. M. J., 933, xxvi, 37

Three types of anesthesis may now be used by the obstetrician—inhalation anesthesis, spinal anesthesis, and local infiltration anesthesis. Inhalation anesthesis, the oldest, has slwtyn had cotain definite disadvantages. The mortality from the anesthetic agent, while low is not negligible Phimozary complications are frequent, and the toxic effects of the anzesthetic mixture on vital organs must be considered. Acidosis, alkalosis, shock, and dehydration may complicate the puerperium.

Spinal anzatheus, a more recent development, has a definite mortality which, according to Konrad, amounts to 1 fatality in 2,610 cases. Because of inhibition of the respiratory movements, pulmonary complications are at least as frequent as after fahalation angesthesia. The toxic effects of the anesthetic drug on the nervous system are manifested by paralysis of the oculomotor and abducens nerves. beadaches, and the later development of spanic paralysis and paraplegia. Subarachnold anasthesia has always been contra-indicated in the anemias and cardiopathics. Pregnant women are especially susceptible to abnormal reactions to drugs such as those used to induce spinal anaesthesia. Moreover, the induction of spinal appeathesia is rendered difficult in pregnancy as the back cannot be bent properly

Local infiltration annesthesia, which is relatively new, can be employed for every procedure practiced in obstetrics. The only contra indications are the cases of nervous women and cases in which the site of injection is involved by infection or infilammation.

The author has used local infiltration anesthesis for dilatation and curettage, spontaneous delivery, episiotomy the repair of both recent and old lacerations, low forceps delivery createran section of the low classical, and Porto types, anterior variant hysterotomy and abdominal and vaginal sterilization.

Fifteen minutes prior to the operation a bydermic injection of kg at of morphine and s /roo pr of acopolamin is given. The patient is made con fortable on the table with pillows, the knees are tied down gently and the arms are placed in a loossing. A trained ansathethir or nurse stand at the head of the table to reassure the patient, and of operator speaks to the patient occasionally unless she becomes downsy. Absolute quiet must previous above the properties of the properties of the protact of the properties of the properties of the production are used, whereas for operation to each of the properties of the properties of the solution are used, whereas for operation section from 6 to 8 oz. may be necessary.

For dilatation and curettage the parametrium is injected. The introduction of pituitary extract directly into the uterus limits bleeding to the minimum

For spontaneous delivery the infiltration is under midway down one labitum majus and the edge is infiltrated down and across the fourthette to a similar point on the other side. The laver between the vagins and rectam is then infiltrated for a distance of about 6 cm. with about 30 cm. of the solution. Next, the levetor fascia and the makes into each side. Within a few minute the corticle is relaxed and gaping. The pains may cause for a few minutes, and occasionally a x-sult injection of pitultum is necessary. Low forceps may be applied

without pain.

For episiotomy, the line of incision is further infiltrated and to c.cm. of the solution are injected into each ischiorectal fossi for a distance of about 5 cm. This area is found mildway between the anus and uschial tuberosity. As pain is absent, the patient will not be afraid to bear down.

For vaginal hysterotomy the parametrial block is supplemented by an injection of 5 c.cm. between the bladder and uterus. For wide retraction in

filtration of the vulva is necessary

Cesarean section requires infiltration of the abdominal wall only. The infiltration should extend 3 cm. on each side of the incison, and at the public arch, which is especially sensitive, it should be more extensive. Sufficient time must be allowed for the answitchete to act before the cesarean section is begun. In the low cervical operation the use of about 45 c.cm. of the solution will aid in the separation of the pentioneum from the lower segment.

The technique of the induction of anesthesia for the Porro cesarean section and for sterilization is

also described in detail,

In 68 per cent of 150 cessarean sections Green hill used local anesthesis alone and in 8 per cent be used ethylene in addition. There were no maternal deaths. DOWALD G TOULDISON M.D.

Roques, F; Anaesthesia for Eutocia. Lancet 1933 cccclv 177

At the present time the pain of childbirth is alleviated by one of two methods—a procedure to shorten the labor or the administration of a drug. The routine use of any one method or drug is dangerous. Each patient should be treated according to her individual reaction to labor pain

The author reviews all of the accepted methods of producing analyseiz in labor and gives the advantages and duadvantages of each. He divides the drugs into the sedatives the aneathetics, and the

hypnotica.

The four most commonly used sedative drugs are potassium bromide, chloral hydrate, morphine, and hyocine. These are employed most frequently made the first size of labor when there is a disturbance of uterine action due to anomalies of the forces or a delay due to mechanical causes. As an example of the type of case in which a sedative drug is indicated Roques dies the case with a munor degree of pelvic contraction, occipit potertor presentation early rupture of the membranes aluggiah action of the uterus, and slow dilatation of the cervix. A mixture of from 15 to 20 gr each of potassium bromide and chloral hydrate is asfe. However, when this is given without an optate it is often ineffective.

The most useful of all drugs for the induction of analystis is morphine. According to Fairbairn, this should be given when the patient is tring and before the is tired Roques states that it abould be given when a long labor is anticipated when the patient is unduly nervous, hypersensitive, fearful or neurotic

and when a usually high-strung patient is rapidly tired by short meffective contractions. The first dosshould be from 1/6 to 1/2 gr. Roques believes that a second dose is rarely necessary. He cautions against the use of morphine when delivery is expected before three hours. Morphine is of great value in echampsia. A mixture of morphine and hyoscine is considered by Roques to be impractical except under ideal circum stances as it prolongs labor and causes restlessness and excitement.

Of the anaesthetic drugs, Roques discusses chloroform ether, and nitrous oxide and oxygen. He believes that in the average case chloroform is of much more value than ether as it acts more quickly it causes less severe vomiting and the analgesia it induces can be more rapidly converted into anaesthesia. Moreover ether causes excessive mucus in the air passages. From 2 to 4 dr of chloroform ser usually sufficient. More than 6 dr should never beused. If anesthesia for operative delivery is desired, ether or chloroform and ether may be used.

Ether may be employed by the same methods as those used for the administration of chloroform. Roques describes the Gwathmey method, but states that in his limited experience with it he has not

found it practical.

Nitrous orde and oxygen us the ideal aneathetic when prolonged analgesia is desired and the en vironment and personnel necessary for its administration are available. Its disadvantages are its cost and the cumbersome apparatus required for its administration

Of the hypnotic drugs, Roques discusses avertin sodium amytal, permotion and nembutal. He considers numbutal the best and sodium amytal the least satisfactory. However he states that he has never used sodium amytal. Disadvantages common to all of the hypnotic drugs are that they produce extenent and prolong labor there is no method of gauging the proper dosage and the correct treatment of overdosage is not known.

Roques concludes that in the ordinary case the use of morphine in the first stage and of chloroform toward the end of the second stage is the most satisfactory procedure, but when the patient is able to afford it and when she is delivered in a hospital the use of morphine in the first stage and of nitrous oxide and oxygen supplemented by ether toward the end of the second stage is the method of choice.

CHESTER C DOSERTY M D

PUERPERIUM AND ITS COMPLICATIONS

Liebmann, I: Hens in the Puerperium (Heus im Wochenbett) Orsori kail., 1932 p 790.

During the puerperium the attention of the obstetrican is directed primarily to the condition of the gental organs. For this reason the timely recognification of extragential abdominal disease is very difficult. Heus during the puerperium is very rare and has an unfavorable prognosis because of the late diagnosis. The author reports two cases.

The first case was that of a para-i, twenty nine years old. Who was admitted to the hospital for delivery at the end of presnancy Four years previously she had had a strengulation fleus following an enterior firstion (Dolfris) and a selpinenotehorectomy on the right side. After operative division of the adhesions the intestinal function returned to normal. Several days before the entered the bosoital for delivery she had pains in the lower part of the abdomen which the midwife believed were week labor pains. Artificial monther of the her of waters was done and spontaneous delivery oc curred without complications. On the first day of the puerperlum peritoneal symptoms, meteorism. vomiting and hicrup developed. As laxatives had no effect and the condition rapidly became worse lanamtomy was performed. The abdominal cavity contained a bloody serious exidate and the loops of the small intestine were blue and enlarged to the size of an arm A loop of Beum so cm, long was found to be strangulated by an adhesion extending from the right tubal angle to the wall of the pelvis. The rangrenous loop of bowel was resected and entern-enterostomy was performed. Death occurred

The second case was that of a twenty year-old ners I who left the clinic on the ninth day after spontaneous delivery and an uneventful paemerium and was re-admitted five weeks later. After her discharge from the hospital she had been well for a brief interval, but then began to suffer from cramps in the lower part of the abdomen, which were apprayated by defection. The abdomen was distended and was painful to pressure. \omitime occurred. Roentgen examination revealed stenoids in the lower part of the fleum. Laparotomy was performed because high enemata could not overcome the obstruction. Both adness showed slams of recent Inflammation On the right side there were loons of adherent fleum strapeulated by a circular hand. The strangulating band was resected and entero-enterostomy was performed. Healing occurred by second ary Intention

soon after the operation.

In pair of the infrequence of intestinal obstruction in the preparation in the possibility of its occurrence should always be considered and operation should be performed immediately after the onset of such symptoms. If operation is done in time and there is no delay because of the use of eatherties, the find depre of cure will be considerably increase.

F. GOLDBERGER (G)

HEWHORK

Dunham, E. C.: Septicemia in the Newborn. Am. J. Dis Child 1933 xlv 220.

The author reviews the literature on septicamia in the newborn and reports on thirty nine cases collected over a period of five years. In these cases positive blood cultures were obtained during the lilness or shortly after death. The predominant oversalisms were streptococci, staphylococci, and

colon bedlli. Pneumococci and the bedllus pyocyaneus were also cultured. Thirty-four of the thirty-die infants died. In the case of streptococcus infection the mortality was 100 per cent, whereas in those of staphylococcus infection it was 73 per cent.

The sepils was generally accompanied by ferre enlargement of the spleen, jaundice (except in the cases of streptococcus infection) bleeding a leuccytosis, and snamins. The white blood-cell courranged from a leucoperais of 4,000 to a leuccytosis of 50,000. All of the infants with a leucoperais died

In eight case the infection was of hematogenous origin. In seven, the membranes ruptured primature, causing supplyaeoccus spritterals in the interpretation of the mouth, seven had distributed, and three had supportative offilm media. In at case the neutro of the infertion could not be determined.

the source of the infants were less than one month old when the illness began. In eight cases the symptoms were present at birth. In foor they appeared during the first day of life in aine during the first week and in eight, after the second week. Thirty of the thirty nine infants were born.

The author believes that applicamila is a relatively frequent cause of morbidity and morbidity of the newborn, and recommends that blood cultures be made when an infant becomes ill and the diagnostic obscure. He states that if the cause of the illness is determined early and transfusions of blood and other treatments are given. recovery may result.

HARRY M NELSON M D

MIRCELLANTIOUS

Borrás, P. K.: The Aschheim Zondek Reaction in Chorlosepithelioma (El corlospitelioma y la reaction de Aschheim-Zondek) Semana mili 1932 1711, 676.

The Aschheim Zoodek reaction is of aid in the recognition of pathological pregnancy as well as normal pregnancy and in the differential diagnosis between pregnancy and other conditions of the

penital tract.

mental tract.

The value of this test in the diagnosis of hydatidform mole and chorionerithelioms was first recomized by Aschheim who obtained a positive reaction in a case of metastasis of chorionerithelioms
to the kidney eighteen mounts after hysterectomy
Aschheim a series of cases has since increased to
worty. In certain cases of hydatidizion mole in
which the reaction remained positive for a few
weeks after expulsion of the mole curettage was
indicated for the removal of retained parts or the
septianing of a chorionerithelionus. On the other

hand, in one of Aschheim's cases a diagnosis of chorionepithelioms was made on the basis of curet tings when the Aschheim Zondek reaction was nega tive. Although the patient refused operation, she recovered and is now entirely well, a fact proving that the microscopic diagnosis was erroneous.

In determinations of the amount of the hormone of the antenor lobe of the hypophysis in the urine in cases of hydatidiform mole and chorionepithelioma. Zondek found that the quantity is greater than in normal pregnancy. While in normal pregnancy with the normal pregnancy with the normal pregnancy of the property of t

Rosaler made untilar studies of the urine in 7 cases of hydatidiform made 2 acases of hydatidiform mode and probable chorionepithelioma, and 3 cases of choronepithelioma. In all, the amount of hor mone of the anterior lobe of the hypophysis was much greater than in normal pregnancy

Of the 2 cases of choronepithellome reported by the author 1 was that of a gird insteten years of age who had been married seven months. According to the history menstruation had always been normal ln all respects. At about the beginning of the third month of pregnancy a uterine hiemorrhage occurred. This was accompanied by a slight elevation of the temperature intermittent pelvic pain nauses, and vomiting Durings period of two weeks of conservative treatment in bed, the symutoms became aggravated and a hydatidiform mole was passed. After curetting the hiemorrhage ceased bring the next ten days there was general improve-

ment, but at the end of that time the hæmorrhage recurred. The Aschhelm Zondek test made thirty three days after the curettage was strongly positive. Supravaginal hysterectomy including both tubes was therefore performed. Pathological examination showed the uterus to be about twice the normal size and of a softer consistency than normal. The peritoneal surfaces had their normal luster. In the utenne cavity there was a flat mass projecting from the fundus and posterior wall almost the length of the corpus uters. It was about 1 cm. thick and dark red. A histopathological diagnosis of chorion epithelioms was made from this tissue.

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In the other case reported by the author the symptoms signs, and clinical course indicated neoplastic degeneration of chorlonic elements. On the date when normal menstruation should have appeared the patient had a profuse uterine hemorrhage and passed numerous clots, among which products of conception were recognized. After eight days in bed she began to complain of pain in the lower part of the abdomen especially on the right side. The bloody discharge recurred with numerous clots Following curettage the hamorrhage ceased. A few days later the patient complained of chilliness and perspiration, and a slight bloody vaginal discharge occurred. There was no fever Comous hamorrhage again appeared and curettage was done again There after clots were passed almost daily On pelvic examination the uterus was found to be somewhat enlarged, softer than normal, and painful on ma nipulation. Before operation was advised the Asch heim Zondek test was carned out. The result was negative. Accordingly conservative treatment with ice packs ergot and sedatives was continued. The hemorrhage finally ceased and since then the pa tient has been well. WILLIAM R. MERKER, M D.

GENITO-URINARY SURGERY

ADDRNAL KIDNEY AND URETER

Gérard, M.: Ancurisms of the Renal Arteries (Les antivryumes des artires réasies). J d'ural soté se chir 1914 xxxlv 353 440.

This article is based on forty nine cases of aneurism of the renal arteries collected from the literature.

Gérard maintains that there is only one kind of ancurism of the renal arteries—the true ancurism. So-called false ancurisms, he believes, are only complexitions of kidney injuries.

The triad of symptoms pain, hematuris, and perirenal swelling given in the classical textbooks was based on examinations of false angurisms. Of the forty nine cases of true ancurism reviewed by

the author this triad was present in only five. Angurisms of the renal arteries are about equally frequent in men and women, and may develop on either the right or the left side. They are almost always unflateral and solitary. As a rule they are

outside the renal parenchyma, within or immediately adjacent to the hilus and generally are intimately connected with the pelvis.

Ruptured and unruptured aneurisms are considered separately as they are quite different. Un ruptured aneurlants generally occur in old persons and are caused chiefly by arteriosclerosis. They develop slowly and show a marked tendency toward calcification. The prognosis is good as they do not rupture. Ruptured aneurlams of the renal arteries are found chiefly in young persons and are produced by the usual causes of ancurism in other locations. They develop gradually The prognosis is very unfavorable. These aneurisms are twice as frequent as the unruptured aneurisms occurring in old persons.

Calcified appurisms in old persons cause pain in the region of the affected iddney with ordinary orl nary symptoms. Roentgen-ray examination will revesi an annular shadow, and pyclography will show it to be located at the bilus, but outside of the pelvis. An exact diagnosis of calcified aneurlans is therefore possible. Ancurisms of the renal arteries in young persons produce practically no symptoms until they rupture. After rupture the following three

distinct dinical forms may be distinguished r. The pure homesturic form. This is found in one-third of the cases. Its development is quite slow requiring several weeks or months. The prog nosis is unfavorable. A diagnosis may be made by the usual urological methods, but the condition is so rare that it is often not considered. Arterlography will belp in the diagnosis.

2 The form with perirenal swelling This form is found in about half of the cases. It generally develops suddenly with a large accumulation of peri-

renal blood, pain, and signs of pressure and internal hemorrhage. The development of the swelling is so rapid and the patient a condition is so serious that it is rarely possible to do more than make a diagrosis of perirenal hematoms.

3. The mused form with hematuria perirenal tumor and pain. This is rare. It is the only form that corresponds to the classical description and the only one in which the few diagnoses reported have been made. The prognosis is very uniavorable.

Following the rupture of a renal ancurism opera tion is always indicated. In the pure hamatude form of ruptured aneurlam time may be taken for prological examinations to determine kidney func tion. In the form with perirenal tumor and in the mixed form, operation is generally urgent, but, if possible time should be taken for a determination of renal function. Operation is generally indicated in cases of unruptured aneurlam on account of the danger of rupture. It is contra-indicated when the patient is old and has generalized arterioscierosis. In some cases, simple removal of the ancurismal sac will be sufficient, but as a rule nephrectomy is necessary The kidney pedicle should be clamped to prevent hamorrhage in case the sac of the aneurope ruptures. AUTHORY COM MORGAY M.D.

Motz, C., Supparative Nephritis (Les procéphites) Arch, and de le clis, de Vecker 1932 vil, 221

This is an article of 200 pages limited to a disconsion of localized supportations of the renal parenchyma.

The lexions under consideration have been described by the following a names, none of which is entirely satisfactory "carbuncle of the kidney" surgical nephritis," and suppurative nephritis." The author prefers the name "pronephritis as the dominant characteristic of the condition is localised suppuration.

Millary abscesses of the kidney were first described by Raver in 1841 Later Halle Albarran, Achard, and Lannelongue (1857-89) studied their patho-genesia experimentally. The first localized aboves was reported by Israel in 1901 as a carbuncle of the kidney In France, interest in cortical abaceses dates from the publications of Chevanu in 1912. Since that time reports regarding them have become increasingly numerous.

In 1919 Bergeret came to the conclusion that all perinephritic abacesses have their origin in cortical

abscesses of the kidney

Pyonephritis occurs at all ages, but is most frequent between the twentleth and fortleth years. Its incidence is the same in males and females. The lesions occur twice as frequently in the right kidney as in the left kidney They are bilateral in a per cent of cases and under such circumstances are usually a part of a fatal pyemia. Trauma is of little impor tance in their causation.

The most important single source of the infection is a furuncle due to the staphylococcus. In the large variety of other primary foci of infection which have been found the type of organism is variable.

The hamstogenous mode of infection has been recognized since the experiments of Hallé and Albarran. The ascending route may be taken by the injection, but usually only under special conditions such as obstruction of the urinary passages. The other kidney may be infected through the lymphat ics. Sweet and Stewart maintain that ascending lymphatic infection can occur from the bladder independently of urinary retention.

From the standpoint of pathological anatomy 3 types of abscess can be distinguished-miliary abacesses, the large (usually single) abacess, and

carbuncle of the kidney

Miliary abacesses are usually multiple. They are located immediately beneath the capsule where they may be mistaken for tubercles. A commonly assocasted lesion is the septic red infarct. Involvement of the perirenal fat results in fibrosis, abscess, or phleemon.

Large abscesses are usually single and seldom number more than 5 They may evacuate into the renal fossa or, less commonly, into the pelvis.

Carbuncle of the kidney differs from the solitary abscess in being a process of congulation necrosis rather than suppuration.

When a cortical abscess is complicated by pyelonephritis the invading organism is usually the bacillus coli.

Cortical abscesses show a marked tendency to heal. The residual lesions consist of depressed areas of fibrosis.

Three clinical forms of suppurative nephritis are recognized, namely septicemia carbuncle, and chronic pyelonephritis. In the first form the patient presents the signs and symptoms of a general infection. Local signs are absent or slow to appear Eventually pain and tenderness develop in the lumbar region. As a rule a history of a previous focus of suppuration can be obtained. The initial septicemia may be overwhelming or mild. In the latter event local symptoms appear early Occasionally hematuria is an outstanding and confusing sign.

Carbuncle of the kidney is rare. Clinically it belongs with the subscute septlemnic forms. It is accompanied by local pain and enlargement of the kidney and sometimes by a permephritic abscess. The functional capacity of the kidney is lowered. The septicemic forms with miliary abscesses have

no such effect.

A chronic exacerbating pyelonephritis may mask rather than reveal an underlying cortical abscess. This condition is rare Stone, tuberculosis, or pyonephrosis is usually suspected. Fallure of a retention ureteral catheter to relieve the general symptoms is an important aid in the diagnosis.

Miliary cortical abscesses commonly occur in the terminal stages of urinary retention due to prostatic hypertrophy or urethral stricture. They are beyond

the resources of surgery

In cases of renal abscess, except those of the pyclonephritic form urinary symptoms are usually absent. The urine is normal or contains traces of albumin, casts, and microscopic blood. Bacteriuria is common and of importance from the standpoint of diagnosis. Examination of the blood reveals a leucocytosis.

Roentgenography is of little aid in the diagnosis. However when present, immobilization of the diaphragm on the affected side is of significance

The most conservative treatment is decapsulation This gives excellent results even when not all of the abacesses are immediately subcapsular Occasionally secondary nephrectomy becomes necessary cases of large single abscesses, incision and drainage are indicated.

German surgeons prefer nephrotomy to decapsula tion. The results of the 2 operations are much the same. Theoretically nephrotomy is associated with greater danger of harmorrhage loss of function and infection and is followed by more prolonged con valescence

Partial resection of the kidney has numerous disadvantages and dangers and is rejected by most

surgeons.

Successful enucleation of a carbuncle has been re ported by Neff

Nephrectomy is generally considered the treat ment of choice. It is attended by fewer dangers than the other procedures and is followed by recovery more quickly. However it can be done only if the condition of the other kidney is satisfactory

Operation should be performed as soon as the diagnosis is made. There is nothing to be gained by waiting for the physical signs of suppuration, and in the hyperacute, septicamic forms, a delay may be

The article is concluded by a review of 144 cases. It is supplemented by 7 illustrations and a bibliogra phy of 85 references ALBERT F DE GROAT M D

Talbot, A. Abscesses of the Renal Cortex (Les abcès de la corticulité du rein) Arch d' mal d' reins et d. organes génilo-urinaires 1932 vil. 11

Hæmatogenous infections of the kidney are vari ously manifested. They may result in a simple bacterioria or a pyelonephritis with an inflammatory reaction of varying intensity Involvement of the perirenal fat may occur with the formation of a phlegmon or abscess. In some cases suppuration occurs in the parenchyma alone forming closed abscesses of the cortex which eventually extend to the excretory passages or more frequently to the pertrenal tissue.

Millary abscesses and gross renal suppuration as a part of a pyemia have been understood since Raver's studies early in the nineteenth century Frequently the lesions are bilateral and beyond the resources of surgery Knowledge of localized unlisteral abscenses of the kidney dates only from the work of Lannelongue (1879). Albarran (1889) and Achand, in cases of abscenses of this type early diagnosis often permits a cure by conservative surgical measures. Cortical abscenses are the source of a large percentage of perioephritic abscesses and plategmons and explain why the latter even when properly drained, continue to suppurate for long periods.

In some cases cortical absenses are military and multiple and located just beneath the capsule. Their oval or irregular outline distinguishes them from tubercies. The overlying fat and capsule are almost constantly involved in the inflammation. Solitary absenses led deep in the parenchyma and may reach the disc of a pigeon's egg or even that of an orange. They usually extend to the capsule. Sometimes the conditions the carectory passages are always involved.

Surpical abscess of the kidney is quite rare. In 1931 Hinkoff was able to collect only 176 cases. However such abscesses often enterpe recognition because they heal spontaneously or are obscured by a secondary perinephritic suppuration. In rare cases besling occurs by evacuation into the renal petyles.

The cause of utilisteral cortical or surplical shoces of the kidney is an incipient septicemia. The first to call attention to cutus-row lesions as the site of origin of the infection was \text{\text{cortilag}} to the Richardson, frumenicals is present in 3; per cent of the cases. Next in importance as causes are tondillitist and appendicitis.

Localization in the kidney is favored by traumat ism previous infection, calculi and congenital malformations or other conditions producing staria.

While the infection is usually carried by way of the blood stream, it sametimes reaches the kidney through the lymphatics from the bladder genital tract, colon, or right leg

Symptoms appear after a latent period during which the original islaim (nuruncie) may beal. The interval is usually about fifteen days. The omet is characterized by chills and fever and often by wonting and biccup. There is marked prostration. Plain in the hypochondrium develops quickly. It is aggravated by deep breathing, and mustly radiates reward be illier region. The maximum point of tenderness is posterior at the function of the twelfth the had the erector spine mass of muscles. Often there is a sensitive point above the fline creat where the cutaneous branches of the twelfth nerve emergs. The condition causes contracture of the humbar muscles and feedom of the thigh.

The reentgen signs consist of immobilitation of the diaphragm on the affected side which obscures the poors shadow or an increase in the size of the renal shadow. Intravenous unography sometimes reveals deformittee of the calveous.

Polyntia is frequent. This is in contrast to the oliginals which usually accompanies high fever. The

urine is usually normal. Reduced functional capacity can be detected only by separate examination of the kidneys. The combined carmely is often normal

The chemical composition of the blood is also normal, but a leucocytosis is always present. The leucocyte count may rise to from 18,000 to 35,000. The percentage of polymorphonuclear leucocytes is about 50.

Hemoculture gives inconstant results and is not indispensable.

In cases of single parenchymatous abscesses the

symptoms are apt to be less violent and enlargement of the kidney is more rasily detected.

Occasionally the symptoms are insignificant and the lesions heal spontaneously. Attacks may recur over long periods. In cases with recurrent attacks abscesses in all stages of formation and healing have been found. As a rule the infection extends to the perirenal fat. Rarely, it extends to the pelvis when it produces prelocaphritis. Such extension is pecallar to infections due to colon bacilli and other corradura of the same troops.

The symptoms of chief aid in the diagnosis are general symptoms of infection with pain indicating a repai origin. In the presence of words, prelo-

nephritis must be puled out.

Medical treatment is rarely curative. It includes the general measures taken for fever and vaccine therapy The object of surgical treatment is drain-age. When the abscesses are small, multiple, and superficial, decapsulation is added. Deep collections are opened with the cantery. When the kidney is riddled with abscesses, nephrectomy is indicated However there is danger that the lesions may be bilateral. Between these two conditions, there are many intermediate stares in which the indications are not clearly defined. Wide inciden of the renal parenchyma is not recommended. Large septic infarcts of the kidney with perhaphritic phiegmon demand nephrectomy. The state of the tissues is much like that of a carbuncle. Drainage is useless. Partial penhrectomy is dangerous and of questions ble value. ALBERT F DE GROST, M.D.

Mastrosimone, C.: Resection and Autoplastic Grafting of the Solitary Edding An Experimental Study (Renctions of innests astropisation sol rene usico) Ricerche sperimentall). Ass Seldi chir 1922 di 2216.

Resection of the kidney is seldom performed in preference to total nephrectomy is unpriectomy in preference to total nephrectomy is unpriectomy in more simple and can be performed more quickly Remoral of all of the diseased tissus by resection and humostasis in resection are difficult, and it is difficult to diagnose the early clemmarched lesions for which resection might be most advantageous. However lesions such as being numons, cytis, traumatte lesions, and calcul arising in the softium traumatte lesions, and calcul arising in the softium traumatte lesions, and calcul arising in the softium precessions surplead intervention.

To determine the safety of resection the author carried out two series of experiments on sixteen dogs. Following unliateral nephrectomy resection and autoplastic grafting were performed on the re maining kidney in pine of the animals and simple resection and suture were done in seven. In the first group about one-eighth, and in the second group, one-third of the kidney was resected. After the operation the dogs were kept on a mixed diet and studies of the function of the kidney were made.

From the results the author concludes that a graft of kidney onto kidney gives complete assurance of hemostasis and is always well tolerated produces benign and gradual regression and substitution, beneficially stimulates the kidney and causes no marked or dangerous change in renal function. EUGENE T LEDDY M D

Calef C. Histological and Functional Changes in the Remaining Kidney Following Unilateral Nephrectomy (Modificationi istologiche e funzionali del rene superstite dopo nelrectomia uni laterale) Arch stal di urol., 1932 ix, 375 637 670.

The author reviews the literature and discusses the various theories regarding compensatory hyper trophy He then presents a detailed description of his experiments on eight dogs over a period of from three to one hundred and ninety days following unilateral nephrectomy In addition he reports thirteen clinical cases which he divides into three groups according to the degree of function of the kidney removed.

In the experiments on dogs there was more or less oliguria for several days after the nephrectomy with a return to normal within four or five days. The excretion of urea was variable but always greater than before the operation. It returned to normal in from one day to one or more weeks The excretion of nitrogen, ammonia, and amino acids paralleled the excretion of urea, but the in crease lasted much longer The elimination of chlorides was increased only during the first day In no instance did the urine contain any pathological elements such as albumin, pus, and casts.

The blood chlorides and nitrogen were increased after the operation, but the increase in the nitrogen persisted much longer than the increase in the chlorides. During the first thirty two days the weight of the remaining kidney was increased from 8 to 27 per cent. It then gradually decreased toward the normal

During the first few days histological examina tion revealed only cedema, vasodilatation, and some lnfiltration. The most important changes were turnility of the epithelium of the convoluted tubules, searcity of karyokinetic figures, and ruptured cells in many places. No tendency toward neoformation of glomeruli or tubules was observed The histological changes were transitory lasting only about seven days.

In the clinical cases the nephrectomy was fol lowed by ollguris for the first day There was then a gradual increase in the quantity of urine to poly uris, which lasted for seven or eight days depending upon the degree of function of the extirpated kidney

The urea excretion was increased for several days. In all three groups of cases the chloride excretion was decreased but returned to normal when a normal diet was given. The excretion of ammonia and amino acids showed a quick increase which persisted longer than the increase in the excretion of ures. The urine was free from pathological ele ments. The author believes that alimentation is a factor in the findings.

From histological studies he concludes that a moderate hypertrophy and hyperplasia of the glomeruli and tubule cells occurs in the remaining kidney This is transitory, and as soon as the kidney becomes adjusted to the increased functional demand the microscopic nicture approaches the GEORGE C FOROLA M.D. normal.

BLADDER, URETHRA, AND PENIS

Zamps G A Grave Developmental Defect of the Bladder and Colon (Di un grave difetto di svi imppo della vescica urinaria e dei colon) Aus ital. di chir 1932 lx, 637

The author reports a carefully studied monstrosity, a five-months' fetus which was delivered by embrotomy After spontaneous birth of the head expulsion was completely arrested. Perforation of the thorax and subsequent removal of its contents were of no avail but on extension of the perforation into the abdominal cavity several liters of clear fluid were released and delivery was accomplished immediately

Anatomically it was easy to reconstruct a large cyst which distended the abdomen to tremendous proportions.

Externally the genitals were represented by a small empty scrotum separated by a median raphe Above and in front of the scrotum there was a very rudimentary penis perforated at its tip by a meatus The urethra extended backward for a distance of I cm from the mestus and then ended blindly

The penneum lacked a median raphe. No trace of an anua-no depression and no fossa-could be found. No anal musculature or sphincter in any degree of development could be discovered. Accord ingly there was a true aplasia of the anus and peri neum instead of a simple atresia.

The pelvis was not yet ossified. It was smaller than normal and was compressed from side to side in its interior portion so that the ischial spines were

in close proximity

The incised abdominal walls were very thin.

An enormous cyst filled the abdominal cavity displacing the viscera upward against the dia phragm. The cyst was formed by a large posterior sac which arose from the small pelvis and extended upward and backward along the vertebral column to the last thoracic vertebra and a smaller anterior sae which extended to the umbilious and there fused with the umbilical cord The smaller sac, which was pyriform was separated from the posterior sac by a deep sulcus. The cavities of the two sacs communicated freely. The walls of the sacs were only very loosely adherent to the parietal peritoneum. No free finld was found in the abdominal cavity.

The anterior sac corresponded to the urachus. In addition to upward displacement, the kidney presented a tribobed structure with uneters that were normal except for an altered course and irregular length. Both of the ureters empired into the anterior creat through a small sulers.

The prostate and seminal vesicles could not be found. The testicles, epididymis, and vas were dis-

found. The testicies, epididymis covered in the abdominal cavity

The distal portion of the small intestine entered the posterior wall of the posterior sac, where it became lost. The structure of this sac with its tenie and appendices exploides corresponded to the colon. Cross-sections of the unbillical cord demonstrated

only one vein and one artery Sections for microscopy were taken from the kid

neys abdominal walls, umbilical cord, and the walls

of the anterior and posterior sacs. On microscopic examination, the wall of the ante rior sac (urachus) showed four distinct layers a tunic of loose connective tissue lined by an endothelial layer the peritoneum a thick muscular coat. and submucess and mucess of fist, polystratified epithelium. The wall of the posterior sac showed the same histological structure but was thicker muscularls of the posterior sac was more distinct and presented an external circular and an internal longitudinal layer analogous to the external and in ternal layers of the normal intestine. The submucosa was rich in capillaries and lymphatics. The mucosa consisted of high, flat polystratified epithe lium lacking a true basel membrane and muscu laris mucrose. Glandular formation was absent in all arctions.

In the author's opinion the malformation was a persistent cloaca interna or endodermica with notably hypertrophied and dilated walls.

GEORGE C. FINOLA, M.D.

Phélip, L.: Endoscopic Findings and Operative Endoscopic Technique in the Dysectizates of the Neck of the Bladder Exclusive of Prostatic Hypertrophy (Constations endoscopique dans technique operatore endoscopique dans les dysectizates du col, hypertrophic prostatique exclus) J d'avoi soil di dir 011, 1214 57

The author discusses 'protestism without preseated hypertrophy. Persons with this condition have all of the symptoms of obstructions of the next of the bladder without enlargement of the protest as determined by recrai examination. Philip prefers the universal crysto-crethroscope for examination, the state of the prefer of the protest of the decumiercuse of the pack of the bladder with an electrical sound scalped. In the lower half he makes one median and two lateral incisions. When the incisions are guided by recrait palpation there is no danget of going too deep. Philip prefers an alternating current with very short wave lengths.
With the endoscopic electrical curette be removes a
deep slice or the entire neck of the bladder

After the operation a catheter is kept in the bladder for forty-eight bours and irrigations are given until the washings are clear. The patient may be allowed to get up on the third or fourth day or may be kept in bed for from seven to ten days.

If necessary the operation may be repeated after three weeks. F M Commun M.D.

Costantini, P: Traumatic Rupture of the Urinary Bladder and Attacks of Ursemia (Scopplo trumatico della vescica erinaria e attacchi uremici) Clin. chir. 1933, vill, 952

The author reviews the factors involved in rupture of the bladder by direct and indirect trauma and muscular violence and discusses those influening the results and responsible for the high mortality

He reports the case of an aviator who was severely injured when his plane crashed. Apparently he was struck on the back by the motor. The accident was followed immediately by pain in the lower part of the abdomen. When the patient was taken to the bospital he had an urgent desire to urinate although he was in great shock. Catheterization yielded bloody urine. The abdomen was distended, ex tremely tender to palpation, and somewhat rigid.

Exploration was done under spinal ansesthesis. The Exploration was done under spins! anesthesis. space of Retains was densely infiltrated with urine and a large amount of urine was present in the peritoneal cavity. The bladder wall was not simply lacerated or punctured, but rather fragmented, and there seemed to be definite loss of substance in the region of the dome. The trigone was intact. A catheter having been passed down the urethra in a retrograde manner the fragments of bladder were sutured about it as well as possible. The result was a small tube-like bladder about 10 cm, long and a few centimeters in diameter There was an assodated fracture of the pelvis.

The operation was followed by oliguria, several convulsions, and unemia, but recovery resulted and ultimately urination became normal. Roemigenograms taken with the use of a contrast medium revealed a fairly normal bladder outline which, in view of the findings at operation, was uperpreted.

view of the findings at operation, was unexpected.

This case is reported with special reference to the apparent regeneration of the bladder and the occur rence of unemia. The author reviews some of the literature on regeneration of the urinary bladder and concludes that the case he reports was an in stance of such regeneration. In discussing the uremia be cites many of the theories regarding it. He believes that the serious postoperative condition of his patient was a combination of shock and toments from the urine in the peritoneal cavity and the subcutaneous tissues. He believes that the oligurla of the first few days contributed to the uramic condition. He states that the ultimate outcome in such cases depends largely on the severity of the A. Lorn Ross, M.D. renal damage.

Mordconi L.: A Contribution to the Study of Bladder Tumors (Contributo allo studio del tu mori vescicali) Ann ital di chir 1032 ix, 670.

The author emphasizes the value of the cystoscope in the diagnosis, differentiation, and treatment of malignant and benign tumors of the bladder

He uses the classification of Christeller, dividing bladder tumors into those which are epithelial and

those which are non-epithelial.

The incidence of endthelial tumors has been variously reported at from 90 to 95 per cent. Non epithelial tumors are comparatively rare. Moriconi has had no experience with non-emthelial tumors but cites the observations of others regarding them.

Attention is called to the statement of Christeller and Stenius that malignancies are very frequently

transformations of epathelial tumors.

Of twenty bladder tumors reviewed two were malignant. Fifteen (87 per cent) of the benign tu more had a para-areteral origin. All but two of the neonlasms were finely pedicled. There was no in stance of diffuse papillomata or vesica villous. The patients ranged in age from twenty five to sixty years. Only three of them were females.

In seventeen of the eighteen cases of benign tumor the chief sign of the condition was the appearance of blood in the unne, usually at the end of urination. The duration of symptoms ranged from two to

twenty years.

The differentiation of malignant tumors from benign tumors by means of the cystoscope was con firmed in all cases by histological examination

In five cases the causative factor was believed to be gonorrhees. In one case the tumor was associated with calculi. In no case were diverticula found. No particular difference was noted in the incidence of the tumors in persons engaged in different profesmons or trades.

Of the eighteen patients, one was treated with diathermy through the cystoscopic sound and seven teen were treated through a suprapubic cystotomysix by the disthermocoagulation of Beer seven by the Heitz Boyer fulguration method and five by disthermocoagulation plus fulguration to the mar gins of the neoplesm.

In the two cases of malignant tumor—cases of papillary carcinomata with the same histological structure—the results were poor, the patients dying within a year one from pulmonary metastasis and the other from generalized metastases.

GEORGE C. FINOLA, M.D.

Andre and Grandineau: The Treatment of Malignant Tumors of the Bladder (Traitement des tumeurs malignes de la vessie) J d'arol méd si chie., 1932 xxxlv 416

Surgeons are not always agreed in regard to the malignancy of bladder tumors. Many pedicled tumors are epithellomata, but as the malignant degeneration is often limited to the surface the cancerous focus can frequently be avoided. In cases of sessile and infiltrated tumors which invade the

lymphatics early final cure is rarely possible even if there is no local recurrence.

Surgeons differ on many points in regard to treat ment but on some points there is general agreement. In cases of pedicled epitheliomata in which the tumors are few and no larger than a nut, treatment with the high frequency current can be given through the cystoscope. Some American surgeons apply radium through the cystoscope. If the tumors are very large or numerous the bladder must be opened. Excision without complete resection followed by application of the high frequency current to the wound gives good results with little risk. If the tumors are numerous, total cystectomy may be indicated.

Sessile or infiltrated epitheliomata must be treated by cystotomy if the patient a condition per mits operation. If there is a single hard tumor of the upper part of the bladder partial resection may be sufficient. If the tumor is large the immediate re sults may be satisfactory but the lymphatics are generally already invaded and recurrence develops. In cases in which there is a single large tumor in the lower third of the bladder the most frequent site partial resection is generally followed by recurrence. Even total cystectomy is rarely effective perma nently unless it is performed early and in the early stage the patient generally refuses it. In the early stage radiotherapy may be as effective with little risk. In cases of multiple small tumors which are close together and in the upper part of the bladder an extensive partial resection may be sufficient. If not, total cystectomy is necessary. The only treat ment for soft encephaloid tumors is total resection

If the patient s general condition is too poor for radical operation, electrocoagulation may be done through a cystotomy incision. In some cases of tumors that have not completely invaded the blad der wall it results in cure and in many it gives complete and prolonged palliation. Radium treat ment is useless if invasion of the lymphatics has oc curred and cannot be employed if the general con dition is very poor or the tumor is very large. It can be used effectively for low tumors that are not too large. In some cases kidney function can be improved by hygienic and dietetic measures and arresting the hematuria by deep roentgen therapy The intravenous injection of mesothorium and cystoscopic electrocoagulation may bring about con siderable and sometimes permanent improvement.

In spite of modern methods the treatment of malignant tumors of the bladder has not made much progress. However the fact that a cure has been obtained in some cases should encourage efforts to make an early diagnosis. Early diagnosis would be possible much more often if a cystoscopic ex amination were made in every case of hematuria.

In the discussion of this report, RICHER cited good results from a combination of radium and surgery Hogor said that in his opinion all true tumors of the bladder are malignant. Urologists are not very skilled in the use of radiotherapy and a closer cooperation between radiologists and pathological

anatomists is necessary

Obansov said that he uses cyatoscopic electrocoagulation for small tumors and resection for larger ones. He follows the patients up for years with cyatoscopic control in order that he may detect and treat recurrences early.

GAYET stated that disthermia is the treatment of choice for polyps and surgery the treatment of choice for mallimant tumors. He has not had good

results from radium irradiation.

CATELIAY reported that he had operated on fity one cases of tumor of the hadder with a mortality of 5 per cent. He advised against too radical operation such as total cystectory and also against fulgration through the methra. He recommended for all cases cystomy followed by deep and prolonged thermocauterization or partial resection of the mucous membrane with states.

Dr. Sarrit said that he had obtained the best results by cystoscopic electrocoagulation in cases of small tumors and by cystotomy with thermo-centerization or electrocoagulation in cases of large

fumors

BOXCKEL stated that cystotomy with electrocognitation is the treatment of choice for sessile or infiltrated cancers of the lower part of the bladder if the tumors are too large to permit cystoscopic electrocognitation.

Lenourae said that the only logical operation for cancer of the bladder is early and total cyatectomy. At present this is always performed too late.

Lx FUR said that the high-frequency current should be used by the cystoscopic route for small

tumors and after systotomy for large ones.

Genard stated that almost all malignant tumors of the bladder come for treatment too late. The only

way to improve the results is to make an earlier diagnosis by carrying out a systematic examination for cancer in every case of hematuris that is not manifestly canced by perhaptic

DARGET advised electrocogulation of emberant masses and the implantation of radium needles in the base of the tumor for from five to seven days. He reserves exelections for cases in which radium

therapy and electrocoamilation full

Luras said that in most cases only palliative treat ment is possible. He advised careful daily irregation of the bladder and even a permanent hypogastric incision. He regards electrocoagulation as a valuable sufficient personne.

Parm stated that total cystectomy is indicated in the majority of cases and would be more necessful if it were performed earlier. Physical treatments are only palliative. The best palliative treatment is derivation by double like unretengency.

PARTEAU said that treatment with the highfrequency current after suprapolic cystotomy is of great value. Cystectomy is a very serious operation and does not give permanent results. Radium and roenteen therapy are not effective.

HEITZ BOYER advocated operation with the electric knife. He said that this prevents shock and increases the limits of operability of malignant tumors of the blother.

GOUVERFUN recommended electrocagniation for small peticled trumors and partial cysteriousy with the electric knife for larger ones. He believes that total cysteriousy should not be used. He stated that double uncterestomy is indicated in advanced cases with functional disturbances. As operating should be done early be advised cystoscopic examination in all cases of hematuria.

AUDITOR GOM MORGAN, M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS, MUSCLES, TENDONS ETC

Blegard J D: Longitudinal Bone Growth The Influence of Sympathetic De-Innervation Ann Sarg., 1935, xcvil, 374

From an experimental study of the influences affecting longitudinal bone growth Bisgard concludes that this growth is not influenced by sympathetic de innervation and that there is no experimental evidence to justify the performance of sympathetic ganglionectomy to accelerate bone growth In his opinion the best method of correcting discrepances in length are shortening of the long extremity by osteotomy arrest of the longitudinal growth of the long extremity, or lengthening of the abort extremity by distraction.

PAUL C. COLONNA, M.D.

Littlejohn C. W B: Osteochondritis, and in Particular Osteochondritis Dissecutes. Australian b: New Zealand J. Surg., 1933. ii, 278.

Littleighn says that the application of the suffix 'ith" to the disease under consideration is unjusti fied and a new name is desirable. The condition has been ascribed to trauma traumatic circulatory disturbances, quiet necrosis infection, and constitu tional factors Littlejohn believes the theory at tributing it to traums is the most logical. This theory is supported by the fact that the condition occurs most frequently in men in good health. Moreover the loose bodies and irregularity in the condyles can be explained on the basis of a subchondral fracture. A fall on the flexed knee may transmit a force through the patella to the medial condyle the location of 95 per cent of the lexions. The subchondral bone which is a dense layer sur rounding the spongy bone, is broken, whereas the cartilage which is flexible is not. The result is necrosis of the injured segment and its eventual separation as a loose body The loosening process is probably due to growth of the surrounding carti lage which undermines and lifts the fragment from its bed, and to the rocking motion of the joint which completes the separation.

The author reports ten cases. In some of them examination revealed completely loose bodies and depressions in the condyle from whence they presumably came. In others partly detached frag ments with hinged pedicles were found. Still others aboved areas of apparent fracture under the cardilage without separation. In most of the latter subsequent roemigen ray examination showed restatechment.

In reviewing the history of the condition the author says Monroe in 1726 perceived that

corresponding roughly to the size and shape of the loose body there was a histus on the medial con dvie and the obvious inference was that the frag ment was merely a chip struck off by external violence

It is suggested that other forms of estecchondritis, such as Koehler's disease. Kucmmel's disease and Legg Perthes disease, may be due to trauma which is not sufficient at the time to justify immobilization but causes after-effects demonstrable by roent gen examination. WILLIAM AFRIUM CLARK M.D.

Heydemann E. R.: Bone Atrophy Following Trau ma (Ueber posttraumatische Knochenatrophie) Zentralb f Chir 1932 P 2949

According to the theory most generally accepted Sudeck's atrophy depends upon trophoneurotic disturbances following inflammation and trauma and involves bones and soft parts to the same degree The author asked himself the question How is it then, that the bone atrophy is always found first in the region of the metaphysis and only secondarily in the epiphysis and duphysis, even in regions where special articular changes are absent? He believes he has found the answer to this question in the vascular supply since, in acidosis of the blood the zone of the best vascular supply is most apt to give off calcium most readily and to the greatest extent. The best supplied zone of the bones of juvenile per sons is the metaphysis. Therefore it is here, just as in adults in whom the vascular supply of the dia physis has become poorer that the calcium de ficiency becomes roentgenologically demonstrable carliest. The author shows these phenomena in fif teen roentgenograms of fractures of the diaphysis. From the results of experimental studies on dogs with disturbances of the anterior lobe of the pituitary gland he concludes that disturbances in the function of this gland may lead to calcium deficiency very rapidly

In the discussion of this report, Kallius cited the case of a man thirty-eight years of age who, seven weeks after a jump from a height of ¾ meter had a swelling and livid discoloration of the right foot and without fracture, a considerable calcium de ficiency of the entire skeleton of the foot kallius regards these findings as evidence of the influence of vasomotor disturbances. In another case cited an organic cerebral disease led to severe strophy of an arm and almost cystic strophy of the lunate bone

Korno cited the findings of Schmorl, Schmidt and others who discovered focal degenerations with blood residue but without fracture in the vertebral bodies following trauma. He called attention also to the theory of Goerke and Greifenbein that the bone cells respond to subfractural injuries with local necrosis, and to the theory of Pommers regarding the development of bone cysis from traumatic hamorrhages.

REINERS reported the findings of an investigation which he carried out with Never Studies of the calcium metabolism in isolated surviving boors showed that in venous periusion, calcium is washed out from the bones, whereas in normal periusion the calcium content of the arterial and venous blood remains unchanged.

Karrs stated that be is unwilling to exclude the influence of the sympathetic nervous system. He believes it possible that bone atrophy following trauma may be produced or increased by psychosenic influences.

PLUE (2)

Elmsile R. C., Fraser F R., Dunhill T P., Vick, R. M., Barris, C. F., and Dauphines, J A.: The Diagnosis and Treatment of Generalized Ostelitis Fibrosa with Hyperparathyroldism. Bril. J Surg 1031 34, 470.

Generalized osteitls fibrosa associated with hyperparathyroidism is an indication for exploratory operation on the parathyroid glands. The authors report the following three cases

Case 1 The patient was a woman forty-two years old who gave a history of pain in the shoulder and arm followed by spontaneous fracture of the hu merus. Curettement of cyatic cavities in the humerus was done. Rarefaction occurred in the tible and thickening in the skull. The serum cal dum ranged from 0 to 14 mgm. per 100 cubic centl meters. The history covered a period of ten years. Examination by the authors revealed muscular atrophy prominence of the forebead, a recent fracture of the humerus, irregularity of all long bones, and bowns of the humeri and tible. The right lobe of the thyroid was larger than the left. In May 1030 a parathyrold tumor was temoved from the left side. The operation was followed by tetany but later this ceased. In 1032 the nationt was work ing hard on a farm, roentgen-ray examination showed definite improvement in the bones and the serum calcium was normal. In spite of frequent traumata there had been no more fractures.

Case : The patient was a woman twenty-six years old who complained of acting in the bones which was steadily growing worst and had sustained a fracture of the lemns from slight transa. At examination the left humerus was found expanded and the titus in regular. In the lower pole of the following the state of the state of the large Removal of a parathyroid tuner on the right into was followed by a gradual decrease of the symptoms. Twenty months later the patient appeared entirely normal.

Case 1. The patient was a woman twenty three years old who had had bose deformities from spon tancous fractures since the age of sixteen years. Frequently she had been confined to bed. Examination showed muche atrophy enlargement of the sixell, twisting of the spine prominence of the ster.

num, and bowing and terminal expansion of the long bones. The basal metabolic rate was -22 A parathyroid tumor was removed in January 1937. When the patient was last seen, in May 1933 she was well and active, had gained weight, and was able to walk without crutches but very little change was anogarent in the boose deformities.

Comparative roenigen studies made before and after removal of the parathyroid tumor aboved the operation was followed by increased density of the bones, disappearance of the mottling in the skinl, and, in some cases, a filling in of cysic exvites such that the area became more dense than the surrounding bone

During the period of observation, the diet was carefully regulated and chemical studies of the blood were made. In two cases the serum exiction was abnormally high and in the third case a high normal was found. In all, the phosphorus was abnormally low. After the operation the calcium content of the blood decreased. In now case the phosphorus aboved a alight rise, but in the two others it was little sitered.

At operation, the parathyroid bodies may not be found in their normal position. In one of the cases reported the parathyroid tumor was deeply embedded in the thyroid tissue. The tumors removed were from s to 3.5 cm. in length and from s to s cm thick. Most of them were over

The disgnosts of generalized estells fibrous is usually not difficult, especially in the advanced stage of the condition with path, fractures and definite remixes—ray findings. Operation on the parathyroid island is justified only if there is also a well-established diagnosts of hyperparathyroidsm. This dispnosts requires a study of the blood for increased circium and decreased phosphorus and an examination of the thyroid region for tumor

William Arthur Clark, M.D.

Bailin M.: Parathyroldism in Reference to Orthopedic Surgary J Bens & Joint Surg 1933, 17

The author distinguishes the following types of parathyroldism

1 The vertebral type, manifested chiefly by kyphosis and compressed vertebre and usually progressing slowly. This is the type starting with increasing roundness of the back, pathological for tures of the vertebre, and aching in the back and

a. The infantile type. This is usually more rapid. It begins with general intendinal and uniarry symptoms which are followed quickly by skeleti pains and deformities. Roomers ray estimation shows general decaldfaction, evat formation, and giant-cell tumors. The tumors are often disrnosed as chondromats. Adolescent coax vars and alpying splaybysis may belong among these cases.

3. The arthritic type.
4. The Paget type. In this type, pathological, microscopic, and clinical examinations show trans-

tory stages between osterns fibrosa cystica and Paget a disease. The results of parathyroidectomy m Paget s disease confirm the theory that the two conditions are identical and can be controlled by parathyroid removal. The author has operated on three cases of the Paget type. The first was seem ingly a case of Paget's disease of the femur in which other decalarying lessons were found. The second and third were cases of typical Pagets disease with thickening of the skull. Parathyroid ectomy was followed by immediate relief of the pain and disappearance of the hyperostotic outline of the skull.

5 Types in which muscular hypotonia or gastrointestinal symptoms are more prominent than skeletal symptoms. Weakness may be shown by record ing the milhamperes needed to stimulate muscular contraction, by moving pictures, and by electrocardlograms.

The author advises that conservative treatment by an anti-rachituc régime be tried before surgery is considered. ROBERT V FUNSTEN M D

Scott, G Brailsford, J F Mucklow S L., VII vandre, G. E. and Others. A Discussion on the X Ray Disgnosis and Treatment of Osteo-Arthritis. Proc. Roy Soc Med Lond., 1933 xxvl,

Scorr stated that the first roentgenographic change characteristic of osteo-arthritis of the hip joint is destruction of the cartilage of the joint. The second stage of the condition is characterized by the formation of new bone. The fringe outcophytes which are deposited around the head of the femur and the edge of the acetabulum and the acetabular bone deposited in the lower segment of the acetabulum cause a gradual filling of the cavity with displacement of the head of the femur out of the acetabulum. The third stage is characterized by cavities in the head of the femur or in the bone around the acetabulum In discussing osteo-arthritis of the hands, Scott said that Heberden s nodes are usually the end result of chronic gout

WATT said that when the disease is limited to one or two large joints or an isolated group of small joints and has been present for no longer than a year deep therapy should take precedence over any other form of treatment. In the acute stage it is not ad visable and in the atrophic types of arthritis it is of little or no benefit. Of the cases in which it is indi cated, a symptomatic cure or marked improvement can be expected in 60 per cent and improvement in 15 per cent.

BRAILSTORD stated that repeated trauma in the form of blows or strains on the articular surfaces plays an important part in the development of osteoarthritis. Toxic absorption is an added factor Suc cessful results appear to be obtained only with treat ment which gives rest to the affected joint or dimin ishes the activity of extra-articular proliferation.

Mucklow said that cases with the most marked orteophyte formation are the most likely to respond

to roentgen ray treatment. Following roentgen ray treatment, graduated muscle contraction is of great help Roentgen ray treatment is the procedure of

choice for hypertrophic osteo-arthritis VILVANDRÉ said that there are no cysts in osteoarthritis. The light areas seen in the roentgenograms represent sites of osteoporosis or atrophy from disuse. Trauma and foci of infection play an important part in the production of osteo-arthritis. Vilvandré deprecated too fine a subdivision of cases of osteoarthntis. He believes that when osteophytes are found and there is pain with limitation of move ment the diagnosis of osteo-arthritis is sufficient.

BATTEN stated that the intensive diagnostic method followed by the removal of teeth tonsils or portions of the gastro-intestinal tract had been employed to excess. However it is important to search for foci of infection and treat them. Batten has seen ex traordinary clinical cures and relief after deep roent

genray therapy

CONNELL mentioned the uterine cervix, hemor rholds, and the prostate as possible sites of foca of infection.

NELIGAN in referring to Scott a statement that Heberden's nodes are evidence of gout said that in some of the cases he had found the uric acid content of the blood not raised.

BARCLAY and HARDMAN reported that small doses of roentgen irradiation 125 kv seem to produce

very good results in osteo-arthritis.

NORMAN C. BULLOCK, M D

Leibovici R. and Weili J: Articular Osteochondromatosis (Losteochondromatose articulaire) Presse med Par., 1032 al, 1030.

In examining specimens of loose bodies removed by operation from an elbow joint, the authors found important evidence supporting the theory that such

bodies are of benign neoplastic origin.

The patient was a man thirty-eight years of age who had a swelling in the right elbow which slowly increased in size for two years, causing a progressive decrease in the range of motion of the joint. Ex amination showed swelling on the medial aspect above the condyle in which numerous loose bodies could be palpated. Flexion was good and exten sion was possible to 165 degrees. Roentgen ray examination showed many loose bodies which were completely opaque and some which were of less density like cartilage. The loose bodies varied in size. Two years later the symptoms had increased, the elbow was painful, and extension was limited to about 120 degrees.

Through a lateral incision, about thirty fibrocarti laginous loose bodies were removed. Loose bodies which could not be reached through the lateral inca sion were removed about a month later through a

medial posterior incision

On pathological examination the bodies were found to have a fibrocartilaginous structure and to be partly calcified. There were no bony trabeculæ. The peripheral layer was necrotic, and some of the centers were fatty. No siens of an inflammatory reaction were noted. Loose bodies removed from the nosterior electration region showed more bony structure than those removed from the anterior part of the joint. The condition expected outen chandromatods. It furnished new evidence in favor of Henderson a theory of the synovial origin of loose hodies. If abnormal synovia is not resected. recurrence may develon.

In cases of multiple asterchandromats there is no history of trauma and no lesion in the articular cartilage from which the bodies might have had their origin, as in osteochondritis dissecuns

Roentren ray treatment may inhibit the forms tion of more osteochandromats by sterilizing the synowial membrane Operation is indicated only to restore lost function.

MITTIAN APPROPRIES CLAPS. M.D.

Guibal, J., and Gentin, R.: Traumatic Distraction of the Lower Tendon of the Brachial Bicana (Désinaction traumatique du tendon inférieur du bicera brachial) Res d' cher Par 1933, H. 793

Two cases of disussertion of the lower tenden of the brachial blorns are reported. This lesion is relatively rare, but is more frequent than avulsion of the tuberouity. In both of the authors cases the nationt aligned and caught a support in such a way that the weight of the body was suspended by the right arm. In some of the cases reported the condition was caused by alight contraction of the mescle but under such direumstances pathological lesions, most frequently summats or summatous infiltration, were present before the accident.

Sometimes the pain is so intense that the patient drops the weight he is lifting or lets go of the sunport to which he is holding. The pain is accompanied by a cracking sensation. One patient said he heard a sound like the tearing of cloth and had the feeling that his flesh was being torn. There is

immediate loss of function.

A muscle swelling is seen at the middle of the anterior surface of the arm. On relaxation, it is smooth soft and compressible, but on flexion it rises toward the upper part of the arm and becomes harder and more prominent. At the elbow there is an abnormal depression in place of the tendon. There is also a hematoma, and later ecchymores appear

In muscle bernia the body of the biceps is in its normal position, while in tendon runture it rises toward the shoulder. In hernia the tendon is perceptible on contraction. Complete muscle rupture shows, instead of a swelling, a depression in the middle of the arm between the fragments which is exaggerated when an attempt is made to flex the forearm. The muscle does not rise, and there is a marked functional disturbance. In incomplete rupture differentiation is more difficult, but the normal tendon can be felt at the bend of the elbow

Operation is required in practically all cases. In some the tendon and perforteum can be entured.

Kerschner fixed the tendon to the anterior surface of the home. This does not restore the surrington function of the blooms, but this function can be taken over he other muscles, particularly the suring tor longers. The authors perfer Schmieden a method which consists in suturing the tendon of the bicers to that of the brachiells entires as near as nomible to its attachment to the ulns, the vessel and nerve hundle of the elbow being placed between the brackfalls antices behind and the bicers in front In the cases in which the anthors performed this operation the bicers showed a decrease in function of only a per cent after five months. Surination was decreased so per cent, but later became almost normal after hypertrophy of the other supinators. Whatever method is used, the aponeurotic expen sion of the biceps should be reconstructed as completely as possible. Amprey Goes Moreous M D

Schmool, G.: Dieniscement of Intersectated Disk Tissue and its Results (Urber \erisgerung von Bandschelbensewebs und fare Folges) Arch. Hin Chir 1015 circil sec.

Schmorl stated that the so-called "persistent ver tebral body epiphyses recently discussed by many should not be considered as such. They are in reality separations of the enterior parts of the vertebral body edges caused by intervertebral disk tissue pushed into the spongloss of the vertebra. A prerequisite therefor is a very elastic relatinous nucleus. These senarations of the edge occur practically only on the upper borders of the vertebral bodies and usually in the lordotically curved lumbar portion of the spine. At the sten-shaped excavation. where the posterior edge of the ledge of the vertebral body comes in contact with the cartilarinous plate of the vertebral body the intervertebral disk timue accommodates itself in an oblique anterior and downward direction and thereby causes senara tion of a part of the ledge and the spongious of the

adiacent vertebral body

Of acc vertebral columns carefully examined, the anthor found these changes in so. As a rule they were found in older persons. In several instances separations from several vertebral bodies were visi ble. The separation may be complete, the separated piece being completely movable or incomplete, the separated piece being still held in position by con necting fibers. Of greatest importance clinically is the fact that the penetration of the interventebral disk tissue progresses very slowly and care is necessary to avoid making a diagnosis of fracture of the vertebra. The author has observed avulsions of a similar nature resulting from a single trauma, but these are considerably more rare than the slowly developing separations. In the differential diag nods it must be borne in mind that typical avalators are most common at advanced ages, that they are usually found in the humber portion of the spinal column and very rarely in the lower thoracic por tion and that they seldom appear in several verte-JUNEAU (Z) bas.

Ingelrans, P., and Minne J Psoltis in the Child and Adolescent (La psoltis de l'enfant et de l'adolescent) Arch franco-èdics de chr., 1930, xxil, 1935.

In the course of the last ten years the authors have seen eleven cases of suppuration of the psoas muscle in children between two and fourteen years of age. Occasionally this condition is caused by wounds, but usually it is metastatic from a focus of infection elsewhere such as appendicuts, pen nephnic abscess and osteomyedius of the pelvis. In women, it may be caused by puerperal infection. The anatomy of the region, particularly the

lymphatic tracts, is reviewed. The first symptom is usually pain in the ilrac Sometimes enlargement of the inquinal glands is found. The patient becomes fatigued easily lumps, and soon feels intense and continuous pun irradiating either to the lumbar region or more frequently along the thigh to the knee. Finally walking becomes impossible and a deformed attitude of the limb results. Flexion occurs in all cases. abduction with external rotation in most cases, and internal rotation in a few cases. The fact that slight movement of the corofemoral joint is possible differentiates the condition from arthritis. Palpa tion discloses a doughy swelling in the iliac fossa. Early signs described by others are intense pain on pressure over the external part of the iliac fossa a little inside the anterosuperior spine of the ilium and pain on pressure over the lesser trochanter None of the anthors cases was seen in this early stage. As the suppuration develops the swelling may extend even to the pelvic region and fluctua tion may be felt. There is always muscular contrac tion of the wall of the abdomen near the suppura tion, but when palpation is done carefully begin ning at a distance from the suppuration, the wall of the abdomen is found to be soft and there is no ngidity at McBurney's point. The suppuration has a tendency to progress toward Scarpa a triangle where the femoral insertions of the psoas muscle are located.

The patient's general condition is serious. The temperature is from 30 to 40 degrees C. and the pulse is rapid. There is a cold perspiration, and the patient's color is like that of clay. The unne is scanty and highly colored. In some cases the patient presents a weakened condition with a thready pulse as in application. If operation is not performed, death results from septicopysemia.

The treatment indicated is dramage of the abscess. If this is done in time the prognosis is good. Various routes may be used but it is most important to drain at the lowest point. As a rule the anterior route is best. As the condition is serious, the patient should be kept under close observation. In one of the authors cases the temperature rose again and agus of purulent coordemoral arthruis developed a week after evacuation of the abscess. As the serous burns of the prosa muscle frequently communicates with the serous exvity of the Jonat

the joint may become infected by this route. In the case cited a number of operations were necessary ADDECT GOSS MORGAS, M.D.

Kienboeck, R. Juvenile Malacia of the Neck of the Femur of Hypophyseal Origin (Ueber juvenile Schenkelhaismalacia hypophysaeren Ursprungs) Zitche f orikoje Chir., 1932 Ivil, 403.

Cova vara adolescentum, which the author calls juvenile malacia of the neck of the femur" was first described by Mueller in 1888. Kienboeck reports a study of eight cases. He states that the acute changes are usually found in boys of corpulent build between the ages of fourteen and eighteen vears. Sometimes adiposogenital dystrophy or lymphatic chlorotic constitution is mentioned in the records of such cases. Pain and rapid tiring of the affected hip moderate external rotation, and limits tion of motion, especially abduction, are the clinical signs of the condition. The neck of the femur is deformed as in coxa vara and the head of the femur is retroverted, mushroomed, decalcibed, and flattened. The roentgenogram shows a shifting of the head on the softened neck. In its earliest stages the disease is usually latent, but may be rendered acute and pamful by a strain. The acute stage may persist for months or years.

penisit for months of years. The author believes that in his six active cases he could recognize endocrine disturbances. In the reentgenogram the most striking finding saide from the conical tapering off of the deformed head of the femur is a patchy area of decalcification which in the later stages is changed into a sclerotic marginal zone. In the course of months or vears, with or with out treatment, bony healing occurs with the formation of a sort of knob on the head of the femur and a deforming arthrosis. In two of the authors cases those of men over twenty and thirty years of age whose first symptoms were noted at the time of puberty the roentgenogram disclosed shortening of the femoral neck and a dorsal knob on the neck which markedly hundered abduction.

In Kienboeck's opinion, the cause of the trouble is an endocrine disturbance induced by disease of the hypothysis with consequent weakening of the skeletal system which is overburdened by the excessive body weight. As a result there occur in the region of the growth zone microscopic fractures and aseptic necroses which are of endogenic origin but affected by exogenic initiences. Kienboeck therefore suggests designating the condition as "juvenile hypophysical maliana of the neck of the femur."

The disease must be differentiated from congental corn vara Legy-Calve-Perthes disease, of the head of the femur artinitis deformans of the adult tuberculosis with marked atrophy and destruction of bone painful gonorrhoral artinitis with a tendency toward ankylosis multiple metastases from caronoma lymphogranolomatous xauthomatosis late nickets true osteopasthyrons of children hunger osteopathus osteitis fibrosa. Paget a disease of old persons and traumatic fracture of the femoral neck.

In the active stage the treatment should be con servative orthopedic. Resection of the head of the femur has been abandoned. Hypophyseal preparations should be administered. In the later stages with marked deformity linear outcolomy may be considered.

DESCRIPE (2)

Loewy R.: Knue Flopping (Le isuchage du genou)
Bull, et mêm Soc. é chirurginu de Per 933, xxiv
523.

In 1011 the author observed a case of considerable effusion of the knee following torsons without an oscons or meniscal lesion. This effusion, which was over painful, was not ponctured and persisted for about a month. It was slowly absorbed, but considerable disability persisted Suddenly without apparent cause, the injuried leg gave way without apparent cause, the injuried leg gave way without apparent cause, the injuried leg gave way without pain and the man fell to the ground. Examination revealed no lixity of the articular ligaments, efficient, and the state of the articular ligaments, efficient, and the state of the s

Since observing this case the author has watched for similar phenomena in case of keee injuries and has noted them quite often, whether the traumation was a simple torsion or a more complicated injury. The finpping "faschage ") usually follows traumats which, in the absence of terring of the menisci or serious oserous lections, cause hydarthrosis or harmarthrosis, if occurs after the hydarthrosis or harmarthrosis is for corrs after the hydarthrosis or harmarthrosis has disappeared and there is no longer any raing or other clinical symptom.

The author is unable to offer a sanstactory explanation for the phenomenon. The surgersion has been made that it is due to inhibition of the nervous force maintaining the tomas of the quadriors, but if this is correct it is necessary to captain why such an inhibition should occur without an appreciable cense. In the cases observed by the author there is not to the contract of the properties of the stated for from two foliates years and was notined especially when the patient was physically or mentally futigued or during changes in the weather.

Manipulative treatment does little good and may do much harm. The author concludes that as a preventive measure persons with a knee effection should wear for some time a canvas or leather support extending above and below the knee.

FILE M. SALMONTEN.

Kimmelstiel, P., Kremser K., and Richter H.: Osteochoodritis necroticans of the Seamoid Bone of the First Metatursal (Osteochoodrith accroticans indens der Seambeine des 1. Mctaturale). Arch J Bis Chir 93 dirti, 493

The authors discuss a frequently observed new disease which belongs to the group of Insufficiency conditions of the foot and is called "osteochondrosts" or "chondrouls merculicans." This disease is localized in the senamoid bone of the great toe. In order to study it, very detailed mattomicopathological examinations of the seamoid bone were necessary. The sometimes very delicate and complicated changes in the seamoid bone are shown by numerous photomicrographs. A total of girthy, creas were studied.

The condition seems to have no particular age incidence. The predominant changes are necroses and solutions of continuity in the curtilage, the osteocartilaginous margins, and the margins between the cartilage and connective tissue. These changes are stributed chieffy to mechanical reloca-

changes are attributed chiefly to mechanical lesions. A large number of chincilly observed and treated cases are reported in detail. The chief difficill characteristics are pain at a typical site under the ball of the great toe and distinct tenderness to present in the region of the diseased seasoned bear. The condition seems to occur more frequently in females than it makes. In the diagnostic it must be differentiated from goot fractures, and posteral defects. As a rule it runs quite a chronic course.

In general the treatment should be conservative.
If conservative treatment is unascessful, the sea

moid bone should be removed.

The authors have studied thirty-five cases roent genelogically. The nonnegenograms frequently showed irragmentation, varuolation clearing, thekenings and crumbling. The microscopic findings to not always correspond in degree to the reentgen, find loss.

1800 (2)

SURGERY OF THE BONES, JOINTS, MUBCLES, TENDONS ETC.

Ottolanghi, C. E.: Economical Resection in Tuberculous Ostao-Arthritis of the Knee (La raccide econômics on la deteoratritis bacilar de la rodila) Am de oriej y francaisi, 1931 B, 119.

The author raviews the various methods of treat ing tuberculosis of the knee loint and says that resection is now generally regarded as the best procedure. He describes his method of resection and illustrates the steps of the operation. The resec tion is performed with the nationt on a Putti table which makes it easy to apply the cast immediately without moving the patient. Spinal angetheds is used. An Esmarch constrictor is placed around the root of the thigh and held in place with a Fluochietto or Puttl tourniquet, which ensures perfect hamostasis. In none of the author's cases has there been any secondary hamorrhage or other unfavorable effect from the use of the handage. An inverted U incision is made with its arch just above the upper border of the patella and its ends on each side at the posterior end of the joint interbo-The skin and soft parts are sectioned and the flap from the quadriceps tendon is turned down. If adbesions are found between the patella and femur they are out with scissors or a knife. When the upper part of the foint is exposed the leg is gradually fiered, the lateral ligaments and any adherious

present being cut. The flexion is continued until the posterior surfaces of the condyles of the femur are visible, the proximity of the popliteal vessels being borne in mind. As soon as the joint surfaces are exposed all of the synovial membrane and soft parts that appear to be diseased are resected. The synovial cul-de-sac and any fungosities contained in it are removed completely

The knee is then flexed to go degrees, the tible being displaced backward so that the lower end of the lemur is completely exposed, and the joint surface of the femur is sawed off as economically as possible and with the formation of a convex surface. Removal of the diseased joint cartilage leaves a freshened bone surface. The resistance of this surface is tested with the back of a curette and any caseous cavities are curetted. The upper sur face of the tibus is then sawed off with the forms. tion of a concave surface into which the lower surface of the femur will fit. Here too any cavitles are curetted. Only the joint surface of the patella. is resected.

The leg is then straightened out and a careful examination is made to see that the bone surfaces are exactly adapted to each other. The leg is placed in flexion of about 5 degrees, which makes walking The capsule and fibrous tissues are carefully sutured with reconstruction of the quadriceps ten don. The aponeurosis and akin are sutured without drainage. A well-fitting plaster cast is applied from the peivis to the foot so that complete immobiliza tion is obtained. A roentgenogram is taken to con trol the position. The case is left on for from five to six months, and at the end of that time another roentgenogram is taken. If ankylosis is complete, the patient is given an aluminum or celluloid gutter splint, with widch he can walk

Fourteen cases in which this operation was done are reported with roentgenograms

AUDREY GORS MORGAN, MLD

PRACTURES AND DISLOCATIONS

Ireland J : Late Results of Separation of an Epiph-

yels. Ann Surg., 1913 weril, 189. Eighteen patients with nineteen epiphyseal seps. rations were examined from seventy four days to

seven years and one hundred and ninety two days following the epiphyscal separation. Sixteen of the separations were due to trauma and three to scurvy Eleven patients were treated conservatively by closed reduction. Of these one had shortening and one had lengthening as measured in the roentgenograms, two had osseons union of the epiphysis to the shaft, one had deformity and one had poor func tion. None had arthritis. Two patients with three epiphyseal separations due to scurvy were treated by simple rest in bed without splints and the admin istration of antiscorbatic food and medication One had shortening and deformity but neither had orseous union of the epiphysis to the shaft impair ment of function, or arthritis. Of the five patients

treated by open operation all had subsequent short ening as measured in the roentgenograms, four showed shortening by external measurements, one had osseous union of the epiphysis to the shaft, and one, after removal of the epiphysis had deformity, poor function, and arthritis. The author concludes that open operation is to be avoided if the fragments can be approximated without it.

The outlook with regard to deformity and func tion seems to differ in the various epiphyses. The poorest results follow epiphyscal separations of the capitellum humeri, epicondylus medialis humeri upper and lower femur lower tibia, upper humerus

lower radius and lower uina.

In only two of the author's nationts (with metacarpal and finger phalanx separations) was there enough shortening to produce a poor cosmetic effect and in only three (with lower femoral, capitellum, and median epicondyle separations) was there a deformity other than shortening which caused a poor cosmetic result.

Ireland states that although it might be expected that the greatest amount of shortening would occur in injuries to the epiphysis which unites last in all bones no conclusion could be drawn in regard to this matter from the observations made in the cases reviewed.

The amount of separation of the fragments as measured in the roentgenogram either before or after an attempt at alignment, is apparently of no value in the prognosis as to sequelse. The essential factor is undoubtedly the integrity of the epiphysis. At the present time there appear to be no evident criteria by which this can be determined

H. EARLE CONVEIL, M D

Fileson, E. L.: Pathological Fractures Gyrec. & Obst., 1933 Ivi, 504.

In 63 per cent of the author's cases of pathological fracture the cause of the fracture was a tumor in 13 per cent, an infection in 13 6 per cent, a nutri tional disturbance and in 10.4 per cent miscellaneous conditions. Mentioned in order of decreasing ire quency the tumors were cardnoms sarcoms, cysts, myeloma, hypernephroma, and endothelloma the infections were osteomyelitis lues, tuberculosis, sarcold and Paget a disease the conditions due to nutritional disturbances were osteogenesis imper fects rickets, scurvy and osteomalacis and the miscellaneous conditions were hyperparathyroidism atrophy from various causes and poisons.

Pathological fractures occur most often in the long bones connected with the trunk. The bone most frequently involved is the femur

In osteltis fibrosa cystica, fractures result in cure of the cysts. In cases of cysts due to parasites or chondromats the pathological tissue must be re moved before healing will result. It is advisable to use roentgenotherapy after immobilization to insure proper eradication of the neoplastic tissue.

In cases of carcinoma the most common single cause of pathological fractures healing occurs before death from the disease in about to per cent of the cases. In sarcoma, endothelioma, and multiple myelomata, the pathological fractures rarely heal.

In fractures associated with acute osteomyelitis good results are obtained if proper drainage is established and the bone is immobilized early. Fractures due to syphilis of hone are rare, but heal well under treatment. In fractures associated with tuberculosis of bone the results are poor. In Paget a discuse union is allow. Non-union usually means SAFCOTTAL.

In neuropathic conditions the bone is fragile because of atrophy of disuse and neutrophic changes. These conditions include tabes dorsalls, paresis, syringomyelia, spina bifida, infantile paralysis, and heminieria. The prognosis for union is good, but care must be used in immobilization, particularly in cases of hemiplegia, as persons with these conditions easily develop hypostatic pneumonia.

Fractures due to osteomalada, rickets, and scurvy heal quickly under treatment with large amounts of

Vitamins D and C. Hyperparathyroidism which is due usually to a parathyroid adenoma, frequently causes multiple fractures. Removal of the tumor followed by the administration of viosterol and calcium gives good results.

Fractures associated with esteogenesis imperfects. and osteosclerosis generalisata heal well, but recur In Gaucher's disease, rarefaction of bone causes fractures which heal poorly

Workers in industries engaged in the production of phosphorus, pearls, arsenic, pyrogallic acid, and mesotherium are subject to bone erosion and fracture. The prognous is good as to union if the cause is removed, but is poor as to complications.

Colp. R., and Mage, S.: The Treatment of Joint Fractures. A n. Surg 1933 xcvil, 177

MAURICE L. DALE, M.D.

The authors state that fractures into joints are not as common as fractures of the long bones. They report on 154 cases of fracture involving joints exclusive of the spine which were treated during the sur gical wards of the Beekman Street Hospital, New York, in the period from 1926 to 1930. The total number of fractures treated during that time was 2 250.

Joints adequately protected by large muscles, such as the hip and shoulder are less liable to injury than those guarded mainly by tendinous structures, such as the wrist and ankle. Joints of the lower extremity hampered by weight-bearing, are more prone to injury than those of the upper extremity, in which the conditional reflexes are quicker and more adept in protective movements and the range of evasive motion is increased by the great mobility of the shoulder joint. In joints such as the hip and knee the intra-articular ligaments have a stabilizing and immobilizing influence.

Intrinsic joint injury resulting in definite irregu larity of the joint surface interferes with function. Therefore every attempt should be made to establish normal alignment of the loint surface if the displacement warrants.

Reduction may be accomplished by manual ma nipulation under angethesia, by the slower process of traction, or by open operation. In most joint fractures the displacement of fragments is not marked. While it is possible for experant callus to protrude into a joint cavity this complication did not occur in the cases reviewed. Moreover it has been definitely shown that synovial find acts as a deterrent to callus formation. Injury of extra articular and periarticular tissues, which may result in fibrous connective tissue adhesions and contractures restricting the range of joint motion, is a serious complication, but may be prevented by treatment including the immediate application of radiant heat and gentle massage whenever feasible supplemented as soon as possible by early active motion within normal limits.

As a rule active motion need not be delayed because of the fear of increasing deformity as the original displacement of fragments is usually slight and is rarely made worse by manipulation. It is only in the exceptional case complicated by unusual comminution and marked separation of the fragments that the condition is argravated by early motion. The danger of the production of arthritis by early motion is more theoretical than real unless there is an underlying arthritic tendency Weight-bearing should be deferred until union is firm as the direct pressure may cause splaying of the bones making up the injured point.

In some types of joint fractures immobilization is to be preferred to early motion. In fractures complicated by severe injury of ligamentous and capsular attachments resulting in dislocation, motion should be delayed until the ligamentous injuries are firmly healed. In such cases the application of traction to maintain the reduction may permit the institution of motion at an earlier period without the disturbance of fragments. Immobilisation is referable to active motion also in cases of arthrodial joints as the constant alight play of the fragments in a relatively stable joint favors non union, arthritis, and persistent pain.

Unusual joint fractures in which the fragments become so displaced that function is interfered with by malunion, non-union, or small fragments lying free in the joint are usually best treated by oper ative measures. The displaced fragments may be replaced and held by sutures or metal appliances. If the fragments are small they may be removed unless their removal will interfere with joint fuaction or bone growth. Severe ligamentous damage resulting in the wide separation of bone fragments or marked subluxation of the foint may require immediate repair

While these general principles form a basis for the treatment, they cannot be observed routinely The treatment must be adapted to the physical findings in the particular case. H. Eastr Cornett, M.D.

Rotolo, G: Fractures of the Clavicle (Le fratture della clavicola) Clin chir., 1932 vill, 874

The author discusses the causes symptoms, clinical and reentgent diagnosis complications and treatment of fractures of the clavide and reviews the results obtained in 342 cases. Most of the cases were treated by a modification of the method of Bardenheur—continuous balanced suspension traction with the arm in abduction and supination. Closed reduction was done in all except a few in which it was impossible or where nerve or vascular injury was present. Good function was obtained in a few cases a slight deformity or overriding per sixted because of intolerance of the patient to the application of sufficient weight or because of delay of treatment. Good results were obtained even in cases of comminuted fractures.

Twenty-seven cases representative of the different types of fractures in the 342 cases reviewed are reported in detail with roentgenograms and the findings of the follow-up examination which was made from one month to four years after the treat ment Only 8 of these cases were treated by open

reduction

The author is convinced that open operation should be the exceptional type of treatment. He believes that the confinement to bed necessitated by the treatment described is compensated for by the results which are superior to those of other methods.

A. Louis Ross, M.D.

Wilson P D Fractures and Dislocations in the Region of the Elbow Surg., Gynec. & Obri 1933, Pd. 235

Of 4.536 skeletal injuries seen during a period of seven years about 10 per cent involved the abow In the cases of 140 patients with 176 elbow injuries, the end results after a year or more were carefully graded according to the system in use at the Mass suchusetts General Hospital, Boston. Arranged in order of decreasing irrequency the most common injuries were dialocations, supracondylar fractures fractures of the head and neck of the radius and fractures of the head and neck of the radius and fractures of the head and neck of the radius and fractures of the oleranon. In 5 per cent of the hospital cases there was a complicating injury of one of the main nerves of the arm.

Of 57 supracondylar (diacondylar) fractures, 3 were of the flexon type with anterior displacement of the distal fragment and the rest were of the common hyperextension type. These fractures were usually reduced successfully by the closed method. The menace of vascular interruption is ever present. In cases with severe circulatory disturbances at tempts at reduction should be abandoned in favor of such measures as extension of the chow, clevation of the arm the application of heat and operative relief of tension. The fracture may be reduced later but excellent results are sometimes obtained without complete reduction.

Fracture of an epicondyle usually occurs on the medial side and is usually an epiphyseal separation. In simple cases the prognosis is good if the elbow

is treated in flexion. If the imment is displaced into the elbow joint and there is involvement of the ulnar nerve, immediate operation is required. Excision is recommended.

Condylar fractures are largely individual problems. In cases of fracture of the medial condyle closed reduction should be followed by fixation in the position of acute flexion, and in cases of fracture of the lateral condyle, by fixation in complete extension. In cases of condylar fracture with severe deformity the choice of treatment lies between (1) open operation preferably with internal fixation of the major fragments by screws or a plate and (2) suspension and fraction with early mobilization. Open reduction should be followed by early mobilization with traction and suspension.

Fracture of the capitellar epiphysis can be disg nosed by comparing lateral roentgenograms of the injured and sound arm. Slight displacement requires no treatment other than fixation in acute fixation for two or three weeks. When there is complete rotary displacement open reduction is necessary. Ununited fractures of the epiphysis are often followed by cubitus valgus with late ulnar nerve

nelsy

The head and neck of the radius are fractured most frequently in adult life Epophyseal fractures with displacement require reduction by open operation. In the cases of adults, open reduction should be reserved for fractures of the neck When two-thirds of the head, including the portion which artuculates with the una, are intact displaced fractures with the vina, are intact displaced fractures resection of the entire head and displaced fractures resection of the entire head should be done. Resection should be performed within the first two weeks, and care should be taken that no bone fragments are left behind.

Fractures of the olecranon without displacement may be splinted for three weeks with the arm in night-angle flexion. When there is only slight displacement complete extension may suffice but in cases of gross displacement open operation is desirable. As suture maternal living fascia is recommended. Active motion should be started after

one week.

Dislocations of both bones at the elbow are complicated by fractures most often in the second decade and after the third decade of life. Whether such shalocations are complicated or not, immediate reduction preceded and followed by roentgen examination should be done under amesthesa. The menace of calciliying harmatoma may be increased by repeated manipulations of the elbow. Forcible passive movements to increase extension are particularly dangerous. In cases of calciliying harmatoma the early treatment should consist of complete rest. Excision should not be attempted before a year

Fractures of the coronoid process and dislocations of the upper end of the radius are discussed briefly The article contains charts showing the age in

the article contains charts showing the age in cidence and tables showing the age incidence, treat

ment, and end results of the different types of injury Smiling fractures and culcutions are shown by outline dividings. The author concludes that fractures and dialocations of the elbow are not formidable when they are understood and correctly treated.

Walter F Blower MD

Lante, M.: The Dunjer of the Formation of Paradiarthronis and of Necrosis of the Sead of the Femur After Fracture of the Necko et Head of the Femur in Joung Persons. De Gefair der Paradiarthroschilding und Femuritogi schwes and Scherichias and Scherichias towathen Jugendicker. Links (seites Circ 193, 194, 53)

The theory that fracture of the neck of the femme shows a much more marked tendency to head in children and young persons than in adults is erroneous. In lateral fractures of the neck of the femme there is great danger of the formation of pseudarthroses, and in located fractures of the head of the femme there is great danger of septum necrous. From social reentgenegrams made in typical cases it appears that after lateral fractures of the acts of the immur in young persons between eleven and seven-tern varies of age asseption excessed of the upper end of the femur may develop very gradeally after reent genological and chinical healing of the fracture has taken place. The disease pictures show an agree that the properties of the

Isolated fracture of the bead of the femor usually remains undiagnosed for a long time. The early symptoms subade, but after from three to sit months the condution becomes worse agrain becames of local necroats in the capital epiphysis. Later the head appears fastened and shows a trough-shaped deprersion. Became of the danger of aemodary necrous of the bead, appears into refere weight bearing must be used for at least sit months in cases of fracture of the neck of the femor even the cases of vorces persons.

Exactors (Z.

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Reid, M. R.: A General Consideration of Blood Supply in the Practice of Medicine and Surgery. Seeds. If J., 1033, xxvl, 107

A knowledge of the circulatory system is of prime importance in the practice of surgery. Infection of visceral spaces and of operative wounds is dependent largely upon foreign bothes and dead or devitalized tissue. Consequently it is important for the surgeon to handle the tissues delicately so that he will not crush them, to avoid mass ligation and the burnal of more ligature material than is absolutely necessary, and to prevent tension that will interfere with blood supply

supply

The relief of emberrassment to the general circulation by use of the effect of gravity in Fowler's

position is emphasized.

Non-specific measures of great importance in the treatment of peripheral vascular disease are discussed. Mannum cooperation is achieved by carefully explaining to the patient the rationale of the procedures used and checking their details repeat edity.

The level of the resting extremity which results in optimum circulation to the foot is determined individually for each case and then maintained as constantly as possible. Elevation much above this optimum level is a common mistake and favors the development of gangrene.

The cycle of position and exercises (Buerger and Allen) in which time is devoted to elevation, depend ency with exercise, and rest with heat is a most important part of the routine of the patient s self help

They improve the circulation.

The skin should be carefully washed and oiled until it becomes as soft and delicate as possible. The involved extremities must be protected from cold, infection and traums. The fluid intake should be established by actual measurement and maintained at a high level. In some cases thyroid extract may improve the circulation. All food of infection should be eradicated. Tobacco should not be used.

These conservative measures often prevent the development of a threatened gangrene.

A constant endeavor to improve the blood supply will improve the results not only of surgeons, but also of physicians.

W J Merce Scott M.D

Sheehan D: On the Innervation of the Blood Vessels of the Upper Extremity: Some Ana tomical Considerations. Bril J Surf., 1933 Ex, 412.

Sheehan calls attention to the discrepancy between the results of lumbar and cervicodorsal sympathectomy. He notes that in properly selected

cases lumbar ganglionectomy has consistently satisfactory effects upon the blood vessels of the lower limbs whereas cervicodorsal sympathectomy may be very uncertain in its effect on the vascular system of the arm. He tabulates the possible factors under lying the incomplete results of cervicodorsal symmathectomy as follows

I Failure to produce a total sympathetic de nervation of the limb

 Pathological changes in the peripheral vessels (i.e. a local fault)

3 Action of middle cervical and vertebral ganglia as reflex centers. This theory necessitates the postulation of afferent vascular nerves.

4 Extension of the penarterial nervous plexus

as far down as the hand

By means of gross anatomical dissections on twenty five specimens a study was made of the sym pathetic supply of the blood vessels of the upper limb Particular attention was paid to the rami communicantes the brachial plezus, and the re lationable of the nerve fibers to the subclavian ar tere.

The most striking feature of the cervicodorsal sympathetic system is the great complexity and variability of its components. For this reason ramisection is an uncertain operation. Complete denerwation is best obtained by ganglionectomy. In this procedure it is essential to remove the unferior cervical ganglion and the upper two thoracing ganglia. For this purpose as well as to avoid injury, to the superior intercostal artery or thoracic duct the posterior approach is preferable. The many variations in the arrangement of the cervicodorsal sympathetic systems are described and illustrated.

HERMAN E. PEARSE, M D

Blavier L.: Oscillometry: An Interpretation of the Oscillogram (Oscillometrie interpretation de l'oscillogramme) Res belge d. 10 méd., 1932 iv 559.

Blavier reports a study of oscillometric curves obtained under various conditions in the cases of normal persons. A very sensitive oscillograph which recorded delicate variations in pressure was used. The apparatus was of two types. The first consisted of a cuff connected by a 'Y to a Pachon instrument and to a chamber communicating with a diaphragm-covered capsule which transmitted variations in pressure to a recording arm on a smoked drum. The second type of apparatus had a mercury manometer instead of the Pachon Instrument. In the recording of high pressures the double cuff of Gallavardin was used. By means of these instruments much more detailed curves were obtained than can be obtained with the commercial apparatus.

The author a purpose was to interpret the curver, various physical factors were found to have an in finence on the result. The thickness of the timese between the vessel and cut influences the amplitude of the curve. Other factors to be considered as the amount of sit blown into the cult the volume changes in the tissue compressed and the tissues proufinal to the compression. The amplitude of the codificaction of the confidence of the codificaction of the confidence with the tightness of the codificaction index varies with the tightness of the codificaction of the codif

After eliminating extrinsic factors, the author concluded that the oscillometric curve yields waves of the following three types (1) those due to variation in the volume of the artery from periodic respiratory motions (Traube Hering curves), those of direct respiratory origin which occur at all compressions with the increase of pressure at inogination and the decrease on energation and (1) those of cardiac origin, which wary inversely with the frequency of the beart best.

RETRIES E. Prinst. M.D.

Moore R. M., Williams, J. H., and Singleton, A. O., Jr.: Vasoconstrictor Fibers: Perhyberal Course As Revealed by a Roentgenographic Method Arck Serg. 018, 1871, 1951.

The authors have made a comparative study of periatrial sympathectomy sympathetic ganglier tomy and peripheral nerve section by means of postoperative roentgenographic visualization of the atteries.

The experiments were carried out on cats. At intervals after the operative procedure upon the nerves on one side, the vascular tree of both limbs was visualized by roentgenograms made after the intra-sortic injection of soldom isolide. The results were judged by comparing the caliber of the vensels of both limbs.

The disadvantages of this method are stated as follows

1 The quantity of sodium iodide used is so toxic

that it invariably proves lethal.

2 It does not reveal absolute degrees of constriction or dilatation, showing only a relative change in caliber.

3 The injection of the sodium lodide is very painful, as evidenced by stimulation of the anaesthetized animal

The authors believe that a relative vascular distation occurred on the side on which the lumber sympathetic chain was removed. In these experiments the splanchule nerve on the side of the sympathetomy was cut and the opposition dermal removed. The dilatation occurred immediately and persisted for as long as a leven weeks siter the

sympathectomy

Similar comparisons were made of vascular
injections made after section of the sciatic trunk
just external to the greater sciatic forsame. Pronounced vascolihatation was thought to have occurred. The same result was observed in half the
case of femoral nerve section.

Mechanical perfarterial sympathectomy of the femoral artery falled to cause a discernible difference in the appearance of the warmlar tree.

This evidence is interpreted as additional confirmation of the view that vasoconstrictor fibers join the peripheral arteries at irregular intervals after having been conveyed distally in the sometic nerves.

REDNAN E. PEARSE, M.D.

Leriche, R., and Fontaine, R.: The Nature of Raymand's Disease (Sur la nature de la maladie de Raymand) Presse més Par 1932, xi 1931

The authors discuss the three major hypotheses concerning the causation of Raymand's disease viz. (r) that the condition is solely a vasometor phomenom (s) that it due to a distant arteritis and (s) that it depends on a local fault in the arteriolar muscularur. The avidance for each of these hypotheses obtained from the literature and from the authors distalled investigations is uncested.

Raymand believed the attacks to be of vancemotor origin. At suropsy he found the injected arteful patent, with nothing in their caliber or form to indicate that the disease was cused by a mechanical obstruction. During the past forty years there have appeared in the literature a series of histological reports showing the constant occurrence of peripheral arteriolities or atheromatosis in patients with Raymand's disease. However those arterial lesions were found after the disease had been present for many years or in patients with arteriorderosis elsewhere as well as in digits involved by gangrens. Photomicrographs of an ampostated finger showing extensive sciences for times and obvious obstruction of

the smaller vessels are presented. The authors believe that the obliterating arteriolitis is the result rather than the cause of the repeated ensempedic attacks. Other evidence symports this hypothesia. A very complete autopay performed in a typical case (Rieder 1930) revealed no trace of an obliterating arteritia. Clinical and oscillometric examinations repeated over several years abov 80 sign of arterial obliteration. In one case arterial obliteration was ruled out also by arteriography Even some digital arteries have been proved patent by Gaertner's tonometer In addition, the efficacy of sympathetic section in the treatment constitutes evidence against mechanical occlusion. For these reasons it seems impossible to attribute true Raynand's disease to organic injury of the peripheral arterioles.

However vasoconstrictive attacks followed by canonis (called by the atthors false Raymand's syndromes") not infrequently occur early in attentits and particularly in Benerge's disease. Often cases with such attacks are reported in the literature removedly as cases of Raymand's disease. The authors acknowledge the responsibility for the miltack in two cases reported by Beck, pays. That is laborated to the responsibility of the miltack in two cases reported by Beck, pays. That is laborated to the reported by the properties of the laborated followed by a phase of vasodination is due to irritation of the periatrical sympathic fibers by advance of the inflammatory reaction to the adventitis. In support of this hypothesis they cite the cessation of the vasoconstrictive attacks in cer tain cases after resection of the obliterated arterial segment. Reflex excitation of spasms can be produced also by extravascular factors, such as cedema of the periarterial tissues associated with a cervical th which does not touch the subclavian artery In arteritis of medium-sized vessels vasoconstrictive attacks are frequently observed (for example, during the development of multiple femoral ancurisms) Miginterpretation of these cases can easily be avoid ed as the circulation is not normal between the at tacks. Moreover the oscillometric index and its response to cold and hot baths are definitely dimin ished, whereas in true Raynaud a disease the oscillometric index is normal between attacks how ever longstanding the disease

Oscillometric analysis throws new light on the nature of Raynaud's disease. In the normal subject the oscillometric curve during rest is about midway between the curve of decreased oscillation after a cold bath (o degrees for ten minutes) and that of increased oscillation after a warm bath (40 degrees for ten minutes). In Raynaud's disease the resting curve and the response to heat are normal, but the cold bath causes an exaggerated constriction, and during an attack of fachemia the oscillometric index diminishes much more rapidly toward the distal end of the extremity. From these responses the authors conclude that In Raynaud's disease the vaso-constrictors are hypersensitive especially in the more peripheral vessels.

In arteritis the involvement of the arternal walls diminushes the ability of the artery to respond and all three oscillometric curves are very close together. An occasional peradoxical response to the hot bath by vasconstriction is explained by stasis from capillary dilatation without associated arternolar relaxation. Such a paradoxical reaction signifies a partetal leafton of the arteriolar.

The authors believe that a careful analysis of the mechanism of the attacks in Raynaud's disease supplies evidence of a peripheral system of autonomic vascular control. Some of the features appear to depend on the extrinsic vasomotor innervation, while others arise from this intrinsic system of short reflex arcs limited to the vessel walls. The authors believe that the latter system is responsible for the vascular reactions and residual symptoms after sympathectomy They conclude that Raynands disease is usually if not always, an essentially peri pheral and arteriolar condition. Lewis considers the essential abnormality in Raynaud s disease to be a local fault in the smooth muscle of the peripheral vessels. Against this hypothesis are the absence of a histologically demonstrable change in the muscle and the usual improvement after operation.

The cause of the hypothecated vasoconstructor hypertonus is not known. Leatons are sometimes found in the sympathetic ganglia excised in Rsynaud's disease, but are not specific and are too in-

constant to be considered an important etiological factor. Oppel and Ochutine suggested an exagerated production of epinephrin as the under lying cause, but in one of the authors cases unliateral suprarenalectomy was not particularly effective.

A simple arteriolar spasm can produce the trophic disorders characteristic of Raymand s disease. This has been shown experimentally by (r) the gangrene resulting from the arterial spasm of ergottism in animals and man, and (a) Todd a demonstration that unguinal trophic changes may be caused by sleeping with the arm elevated above the head. Consequently in Raymand's disease trophic disorders and even gangrene are not an indication of arteriis as they can be caused by a vasomotor disturbance and may completely disappear after sympathectomy.

Scienoterma is often accompanied by ischemic attacks resembling those of Raymand a discase. It is not clear whether the vascular reactions in the two conditions are fundamentally the same, but it is often difficult to distinguish them clinically

W J MERLE SCOTT M D

Allen, A. W Peripheral Arterial Diseases International Clinics 1933 i 162

This article numarizes many practical details that are of great value in the recognition differentiation, and treatment of the common types of peripheral arterial disease. The important characteristics of each type are summarized in a table.

The symptom which most commonly brings the patient to the physician is pain or discomfort. Often this is typical intermittent claudication. In the examination of patients with this symptom impairment of the peripheral pulsations, abnormal pallor on elevation of the limb and unusual rubor on dependency of the limb are important signs. A list of the observations which should be made in all cases of suspected peripheral vascular disorder is given and the routine treatment to be started during or after this study is described.

Arterioscierona is of two types, the senile type and the Monkeberg type. In the latter indroscopic examination of the arteries abows a tremendous thickening of the middle coat. However it is often possible to suspect the Monckeberg type of arterioscierosis clinically when the condition does not respond well to routine measures comes on early in life and shows definite thickening of the arteries with absence of pulsation.

Thrombo-anglitis obliterans occurs principally in young males. As a rule, from five to ten years after the beginning of the symptoms following a trauma (mechanical injury chilling or infection) pain in the extremity becomes constant and often is associated with ulceration. All treatment is directed toward the development of collateral dreulation and the relief of pain. In addition to the routine conservative measures the following procedures may be beneficial [3] injections of non-specific foreign pro-

teln (never to be used in the cases of patients with arterioscierrois) (2) blocking of the sympathetic nerwors system (to be done only if the vasomotor index is not too much reduced) and (a) peripheral nerve block. Injection of the posterior tibial nerve with alcohol and crushing of the superficial and deen permest perce and the sural nerve produces complete anesthesia in the foot with perfect comfort even when Dakin a dressings are applied to ulcerated belons and causes maximum vasodiletation many cases the ulcers will heal and the collateral chrodation will be improved (average time three months) so that major amoutation may be avoided

In all cases of obliterative disease of the arteries the author gives the patient printed instructums regarding the care of the feet. These are reproduced. cises (diagram shown) accomplish more than any other one method of treatment. The tolerance for the devated and dependent positions should be determined for each patient individually and the time adjusted as improvement occurs. The ontimum cir culation level in bed should also be determined for

each patient.

Vasomotor imbalance is of the primary type (Reynand's disease) or of the secondary type assoclased with traumatic lesions or certain general conditions. The author accepts the hypothesis of Ray nand that the mechanism of the primary type is a central one. He states that the ability of the vessels to dilate should be tested by temporary inhibition of vanoconstriction. Removal of the sympathetic ganglia has given good results which, in the case of the lower extremity have lasted as long as four years. However in fourteen of twenty four cases followed for over a year some vasomotor control recurred in the upper extremity Alcohol injection of the sympathetic rami as a substitute for operation is discussed. It may cause a peripheral neuritis with very severe pain. Neither operative removal of the ranglia nor alcohol injection of the sympathetic rami should be considered unless the patient is incapacitated. Many patients with vasomotor imbalance. particularly of the primary type receive considerable benefit, temporary or permanent, from hypercooling repeated daily W. J. Mirmar Scotter, M.D.

Concer L. A.: A Discussion of the Rôle of Arterial Thrombosis in the Viscoral Diseases of Middle Life, Based upon Analogies Drawn from Coronary Thromboels. Am J II Sen 1935 cherry 15.

Attention is called to the fact that whereas thrombods in the arteries of the beart and of the hrain is known to be common and is easy to recognize clinically almost nothing is known regarding the symptoms of arterial thrombosis in the abdominal viscera. Nevertheless, the frequent occurrence of degenerative changes in the arteries of the pancreas, kidneys, spleen, and mesentery indicates that thrombosis in these vestels cannot be rare.

Failure to recognize attacks of arterial thrombosis in the abdominal organs must be due in part to the inherent difficulties of diagnosis, but is almost certainly due in part also to failure to beer the por ability of such attacks in mind and to have ac

cumulated pertinent exidence The author has made an attempt to construct a

framework of diagnosis for arterial thrombosis is the kidney pancress spleen and mesenters by utilizing certain symptoms associated with thromhotic infarction in the heart (fewer lencocytods) and symptoms resulting from inferetion due to embolism in the kidney spleen, and mesentery

Kidney In a nemon of arterioscleratic see in whom there is no reason to expect the discharge of arterial emboli, the presence of dull rain and tender ness in the flank of more or less fever of a lencocytosis, and of red cells and albumin in the urine (If absent previously) would seem to justify a disc

nosis of arterial thrombods.

Silvers Pain of the pleural type fever lepcocytosis, tenderness and perhaps muscular rigidity in the splenic region, and a to-and-fro perisplenitie friction rub over some part of the splenic area make a sufficiently distinctive picture to warrant the diag nools of arterial thrombods if there is nothing to justify the suspicion of embolic inferction and if other satisfactory explanations of the symptoms are lacking

Pascent. In arterial thrombosis of the pancreas. one would expect to find pain of greater or lesser severity in the coleastric or umbilical regions with tenderness, some degree of abook, fever and leucocytoms, and probably nauses and womiting. All of these symptoms might well be evoked by disturbances in various other organs in the neighbor hood, but if in a person of appropriate age, they are associated with the appearance of sugar in the urine, this fact will go far toward fustifying the diag

nosis of arterial thrombosis.

Mesentery It is to be expected that the symptoms of intestinal infarction, from whatever cause, will show great variations in character and severity de pending upon the size and the location of the area of gut involved. The chinked picture is usually divided into two stages, the first characterised by symptoms due to irritation of the gut, and the second by paralysis. The onset is accompanied by violent crampy pain, nauses, and vomiting, some times by diarrhora, and usually by prostration collapse, and sweating. The vomitus is often blood stained, and the stools frequently contain blood. After a day or two and often after temporary constion of the severe pain, the symptoms of para lytic fleus appear-complete obstipation, great distention, persistent vomiting, pain, and tendement. The temperature is usually elevated, but may be normal or subnormal. It seems probable that some degree of fever and leucocytosis must be present in every case at some stage. Even if the diagnosis of intestinal infarction seems justified, there is still the problem of distinguishing between the three possible causes mesenteric venous thrombosis, ar terial embolism and arterial thrombosis. If it is

possible to exclude the usual sources of an arternal embolus and conditions in the abdomen which predispose to thrombosis in the branches of the portal vein (appendicitis and other severe intestinal in flammations, bepatic cirrhosis, thrombosis of the portal vein) and if the patient is of middle age there is strong evidence that the infarction is the result of arternal thrombosis.

In conclusion the author says that when both internists and pathologists seek evidences of such thromboses and correlate their findings, the difficulties of diagnosas will probably be found not in summountable and the climical pictures will gradually energe from their present obscurity as in the case of coronary thrombosis.

SAUGEL KARN M.D.

Afbert, F.; Arterial Obliterations. A Physiopathological Study (Les obliterations artérielles. Etnde physiopathologique) Lyon chir 1932 xxix 640

In studies previously reported the author found that an active peripheral vanoconstruction follows ligation of the principal vein of an extremity causing a definite increase in the pressure in the correspond ing peripheral arteral system. In subsequent studies he has found that total obliteration of the principal artery of an extremity brings about an active peripheral vanoditatation which considerably increases the effect of the vascular occlusion. Therefore, by reason of the active vanoconstriction it causes ligation of the principal vein should partially compensate for the vanodilatation following ligation of the artery

From experiments in which an attempt was made to determine the mechanism of the active vasodila tation following obliteration of a major artery the conclusion was drawn that the vasomotor response does not depend upon the cerebrospinal reflexes or the long sympathetic reflexes. In a comparison of the findings of these studies with those of similar studies carried out by Krogh and Lewis, it appeared that the vasomotor reaction is due largely to the physiochemical modifications of the composition of the blood in the periphery and of the interstitual fluids of the affected parts caused by the disturbance of cellular metabolism brought about by the arterial obliteration. The author believes that, as a result of such a disturbance of metabolism, specific substances are produced or accumulated in the pemph eral part of the extremity, and that these substances act directly upon the walls of the small arteries and capillaries and provoke the vasomotor reaction. When the ultra filtrate of blood recovered from an extremity showing marked peripheral vasomotor disturbances was injected into an animal, a marked peripheral vasodilatation occurred immediately These substances were found to vary with the dif ferent forms of vascular disturbances.

In the treatment of certain vascular diseases the author has obtained very good results by samply compressing the artery at the root of the extremity

In conclusion Albert says that the existence of such specific vasomotor substances must first be proved by carefully controlled experimental work, and then the nature of the substances must be studied before we can discuss their use in the treat ment of peripheral vascular disturbances.

MONT R. REED M.D.

Pupini, G: Anticongulants and Vascular Suture (Anticongulanti e autura vasale) Arch siol de chir 1932 zuril, 661

Pupini reports a series of experiments to deter mine the effect of the local and systemic use of anticoagulants in the prevention of thrombods following the suture of arteries and veins. He found that suture material impregnated with sodium citrate and arsenobenzed did not give as satisfactory results as parafinated suture material. Because of inactivation of the acids and the physical change in the suture material, impregnation with melaninic acid failed to prevent thrombosis.

The local use of sodium citrate in illute concentration did not seem to injure the tissues, but was insufficient to prevent local postoperative throm bosis. The calcium salts removed by the citrate were soon replaced through the circulation. Slightly hypertonic solutions of sodium citrate were found of value to wash out the blood vessels before the application of other anticoagulants especially hirudin

The local application of melaninic acid to the in tenor or extentor of the vessels in the form of a liquid or a paste at first appeared to give good results but later because of changes in the intima and media it retarded the healing processes and favored secon dary hemorrhage, especially when the sutures were under tension.

Arsenobensol was inferior to melanime acid in the prevention of coagulation but had about the same toxic effect. The author concludes that these two substances have no place in vascular surgery

The local use of a dilute solution of hirudin did not cause any damage to the tissues and its local effect was probably sufficiently prolonged to permit the repair of small wounds of the vessels.

The systemic use of hirudin to produce an artificial hemophilia was well tolerated by the animals even over a prolonged period of time and did not seem to disturb the cleatrization of the wound. The best results were obtained by this procedure The increase in the bleeding from the wound made to, gain access to the vessels was controlled by the local use of hemostatics.

Peter A. Rost, M.D.

Pupini, G An Experimental Study of the Technique of Anglorrhaphy (Contribute sperimentale alla tecnica della sutura vasale) Clin chir 1937 viii, 1163

Pupini first presents a critical review of the various methods of vascular suture. The a main obstacles to success are thrombods near the line of suture and infection. Since injury to the vascular coars facilitates coagulation of the blood, continuity of the lumen of the vessel must be preserved to prevent stants and the suturing must be done with minimal trainms.

In 338 cases reviewed by Sofoteroff the procedures and results were as follows

Seture partied	Cream Ma.	70-5	Personality S
Murphy	90	56.61	17.60
Payr Carrel	86	71 76	27 58
Carrel	35	40.04	24-06

The author experimented on dogs, the blood of which congolates much more resulfly than the blood of man. In order to test this method of auture under the most underworkle conditions possible, be disregarded the age and weight of the animals and su-tured the femonal arters a vessel which is small (from 1 to 4 mm. in diameter) under tension, and located in a nare where maintenance of asspets is

difficult. His technique was as follows Under morphine-ether angesthesis and after preparation of the skin with todine. Scarna a triangle was blacted by a vertical incision from 13 to 15 cm. long The femoral artery was then identified and by careful dissection with a fine histoury was isolated for a distance of from 8 to 10 cm. Small arterial branches were tied and cut. Anglostats were applied and the artery was isolated from the adjacent structures by packing it off with small strips of gauze scaked in aterile paraffin or a mixture of oil and paraffin. The field of operation was kept absolutely dry. The adventitia in the field of the inclaion into the versel was removed by the technique of Horsley The stumps were then washed by means of a syringe containing a sterile solution of a per cent sodium chloride and 2 per cent sodium citrate. After this washing the field was carefully dried.

The sature material was No, 700 libers threat structed with parafin with a low melling point or white waseline. Pupini reparts this as superior to fine silk or bomehair. After sature of the vased the field was again washed, the angiostats and the game packing were removed, the incidion was closed in layers, the skin was again painted with Iodine and sterile dreadness were another.

Pupial has perfected a special needle holder as improvement on his former instrument, which facilitates attuning with fine needles under direct vision. The vessel is held in a 3-bladed angiotati, which gives perfect apposition of the intima. The autumn is done with a doubled thread on one end of which is the needle and on the other end of which is a small wright by which the autum is lared across the vessel, a procedure giving perfect hemostasis. Summatized hirtly. Pupils a technique consists in temporary hemostasis by means of rubber bands removal of the perfect hemostasis by means of rubber bands removal of the operative field the spiral temporary forcept to the ends of the vessels and continuous sature with the needle holder described.

The author has developed also a bolders which bold the cut edges in apportion and under the correct tension and are of great who when an operation must be done without a well trained assistant of the authority of the control of the

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE, POSTOPERATIVE TREATMENT

McLean A J: Characteristics of Adequate Electrosurgical Current. Am J Surg 1932 xviii, 417

McLean says that electrosurgery has reached its present stage of development almost entirely by an empiricism balancing between manufacturing avility on the one hand and clinical skepticism and

daring on the other

Endothermy utilizes the production of intense local heat within the dissue. The intensity varies with the current density. If the intensity is less than destructive, the current is called disthermic. In order to prevent all except heating effects, high-frequency currents are used. Modern electrothermic devices employing frequencies of from 80,000 to 4,000,000 make it possible to pass large amounts of electrical energy through the body with only heating effects. At present this is the sole value of high frequency current as such. Contrary to general bellef catting and coagulation have no fundamental bearing on frequency oscillations, or wave form

The effect of heat is dependent upon the intensity of the heat and this in turn is dependent on current density. A proper volume of current passing through the body between large (8 sq. in for example) electrodes is of low density mildly warming, and not destructive. The same volume of current passed between a large and a small (34 in, for example) electrode produces a higher density with cosquia tion of the tissues at the smaller electrode. The use of a needle electrode causes intense local destruction of tissue sandogous to a clean surgical incision.

The author reports on an experimental electrosurgical unit and some commercial machines as to output and the histological character of tissue incisions.

An ideal machine abould furnish from 250 to 350 ma delivered at the electrode tip, most of which should be electricity utilizable at below 250 volts. The current should be free from harmonic faradic effects and its frequency should be such that con duction delivery by clinically adequate cables is possible and uninvolved clamps and retractors in the operative field do not become warm. All perts of its circuit should be grounded through supply wiring. With many of the triode machines on the market today it is difficult to obtain adequate am perage without excessive voltage, and many gap machines supplying adequate amperage also possess unusual dial possibilities of redundant voltage.

In conclusion the author says that present cartel prices of most machines are excessive and those of several of the pioneer machines remain prohibitive.

Grosce A. Collett M.D.

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Knjazev E.: Electrical Injuries at the Tractor Factory at Čeljabinak (Elektrisitaetsverietzungen auf die Traktoriabrik in Celjabinak) Nov chur Arch 1932 xxv 167

With the more extensive use of electricity in industry and private life, injuries from this source are observed with increasing frequency. Never theless, several questions with regard to the pathol ogy and treatment of such injuries still remain practically uninvestigated. On the basis of two cases of severe electrical injuries the author discusses some of the aspects of these interesting and little understood traumata.

Electrical skin marks stand out in the normal They are entirely painless and show no evidence of inflammation or eschar formation They persist for a time and are then cast off. If a volt arch is added to the effect of the current, the skin marks are associated with burning. After severe injuries, not only the electrical marks but also the adjacent tissue, which otherwise appears entirely normal, undergo disintegration so that the initial necrotic portion shows a very pronounced tendency to spread. In one of the author's cases the area which at first measured 8 by 10 cm. increased until it measured 15 by 17 cm, and involved the greater part of the occiput. The hair showed a very pecu har change it was not singed, but was twisted in corkscrew fashion. The blood vessels became brittle and bled intensively. The bones also suffer trophic changes large portions such as entire digits sometimes being cast off without pain or suppuration. Disturbances of the central nervous system and peripheral nerve trunks are manifested by cedema and hemorrhage of the brain, epicpltiform attacks, neuritis, and paralysis of the extremities.

With regard to the danger to life the suthor says that even low tendon currents (up to 60 volta) may prove fatal. Occasionally apparent death (lethargics electrics) may occur. As a striking example the author cites the case of an engineer who remained for forty-eight hours without signs of life following an injury from a high-tendon current. He had been laid out in a funeral parlor and got up by himself and returned to his relatives. The only definite signs of death are death-spots. Unconsciousness and creation of the cardiac and respiratory activities are not absolute signs of death in electrical injuries. As a rule no specific changes are found at the autopay on persons who have died from electrical traums.

Artificial respiration, possibly by means of apparatus especially constructed for the purpose. should be begun immediately after the injury. The treatment should be strictly conservative. There should be no operative wound tollet and no amputations. For the relief of ordema of the brain lumbar punctum is indicated.

The author's own material consists of two cases of sovere electrical injuries. The first patient was skilled by a current of 100 volts. The second recovered from a current of 130,000 volts although he was according followed.

AN ACCTURATA

Woodbridge P D: Batter Gas Amesthesia. The Carbon Dioxide Absorption Method. Ass England J. Med., 1933 CC. III, 613

With the usual method of administering aneshetic guess such as nitrous oxide or ethylene with or without ether a continuous or intermittent flow of the gas mixed with oxygen is supplied throughout the course of the anesthesis. The oxygen serves to support life and to dilute the amenthetic gas. The diluting might will be done with any intergral.

While it is often thought that the amount of rebreathing is controlled by the size of the sperture in the escape valve rebreathing depends rather on the volume of flow of gas from the machine to the reserrori. If this flow is as great as the respiratory volume, there will be practically no rebreathing, but if the minute volume flow from the machine is half the minute respiratory volume, half of each inhalation will be rebreathed gas.

make to five the these liow rapidly shall gas be made to five to the reservoir? With the degrees of ractional rehresthing ordinarily used, the cost of ractional rehresthing ordinarily used, the cost of reactional rehresthing ordinarily used, the cost of reactionally anesthetists employ complete rehrest hing for a few minutes for the sake of economy. This is done by closing the escape valve and stopping the flow of gases from the machine. During this time the patient gradually exhausts the supply of oxygen in the rehresthed mixture and replaces it with car bon dioxide. The annesthesia is not lightened because the ansarched gas from the machine is not lightened because the ansarched gas directions of ethylene) in the reservoir remains in equilibrium with that the blood, but a soucemia and hyperpoxon gardually

The flow of gas from the matchine must be fast enough to prevent depiction of oxygen and under accumulation of carbon disorde in the reservoir. The sole function of the additional ansattetic gas supplied throughout the period of annesthesia is to flush the accumulating carbon disorde out of the reservoir. A constant flow of nitrous oxide or ethylene is not peeched.

When the respiratory volume is 1s liters, the cost of flushing out the carbon dioxide with 50 per cent introus oxide and 10 per cent oxygen is \$1.80 per hour if helf rebreathing is used and \$3.60 if no rebreathing is used.

The carbon dioxide can be removed much more cheaply by chemical means. Fifty cents worth of sods lime (sodium and calcium hydrate) will assort the carbon disolds produced during it to ten bours of anesthesia. To the quents or less per bour which the sods lime costs should be added from 8 to 15 cents for the cargen required for the body Therefore when there is no leak in the apparatus or beneath the mask, the maximum cost per bour for maintenance of anesthesis is a certification.

Woodbridge describes two types of apparatus by which these principles may be applied. A socia-line container is placed in the system. In the apparatus of the first type the Waters apparatus, called the to-and-fro apparatus the guess are passed to the bag and back through the same tube, thus passing through the socia-line twice. In the apparatus of the second type described by Foregger and by Sword and called the circuit apparatus' or closed circle apparatus, the gases pass through the socia lime only on expiration. The relative merits of the two types of apparatus are discussed.

Some of the advantages of the carbon dioxide absorption method may be summarized as follows

The breathing is usually very order.

1 The conservation of heat has been roughly estimated to amount to 25 calonies per minute in the warming of the guees and to from 150 to 200 calories in the evaporation of the water to moisten the gases. The removal of carbon double from anxionable fr

thetic mixtures seems to allow the use of a higher percentage of oxygen.

4 Vomiting after thyroid operations is reduced.

5. The explosion hazard is reduced.

Whilad J Kints, M.D.

Ashworth, H. K.: Nervous Sequelse of Spinal Ansesthesia. Proc. Roy Soc. Mod. Lond., 1931, xxvi, 50

The author discusses the immediate remote, and late effects of spinal anexthesia in a series of 650 cases. Among the immediate effects be litts parally six of the phrenic nerves and failure of the respiratory system. These are due to error in the technique or dosage or the nature of the drug used.

The remote effects include meningitis, parests with analysesia, headache mental changes and back ache.

Meningitis due to a non-hemolytic streptococcus of low visulence occurred in 1 of the cases reviewed and caused death seven weeks after the operation. Paresis and santlegais occurred in 5 case. In 1 there was sixth-nerve paley of eight weeks duration, and in 1, paresis of the legs of eighten days duration which was associated with hexacker and etention of urine. In the third case difficulty was experienced in the administration of the anesthetic and the pattent developed ramps and stiffness of the legs. Five hours after the operation, vomiting of "coffee-ground vomitus occurred. Treaty-four hours after the operation there was complete paralysis of the spinal cord below the slath dorati

vertebra. Later this extended upward and death

resulted following circulatory collapse.

Headache was the most frequent remote complexition and most difficult to trest. It occurred in 4.9 per cent of 134 cases in which percaine was used and in a slightly smaller percentage of those in which stowaine or spinocosine was employed. When it is of the frontal type it is due to seepage of spinal fluid at the site of the puncture and should be treated by placing the patient in the Trendelen burg position and administering phenacetin and aspirin. When it is of the occipital type and accompanied by sgns of meniagasmus it is due to over-secretion of spinal fluid from a disturbance of the chorold plexis and should be treated by the administration of pituitrin the use of a hyperionic solution or repeated spinal puncture.

Mental changes resulting in maniscal delirium occurred in 1 of the cases reviewed. The patient died. The surgeon is convinced that this patient

had delinum tremens.

Backache is due to the needle puncture and is of little importance.

To determine the late effects of spinal anesthesia the author sent to 272 patients a questionnaire regarding the occurrence of headache eyesight trouble, tingling and weakness of the legs, and loss of control of the bladder or bowels. Two hundred and two of the patients replied. Forty-one had died. Ninety-seven were well. Of the 64 others 30 were re-examined by a neurologist. Seven of the 30 had symptoms which appeared to have been caused or aggravated by the spinal anasthetic-Three had indefinite cerebrovascular degeneration Two had unilateral deafness. One had occupital beadache, tenderness of the scalp, and reduced ankle jerk on one side. One, who had had a hernlot omy with infection of the wound complained of headache falling eyesight and paræsthena of the right leg but these symptoms were due partly to a functional neurosis

Of the 272 cases, spinosaine was used in 148 stovalue in 65 perceine in 34, durocaine in 18 planosaine in 6 and procaine in 1. The author lound no difference between these drugs as regards the incidence of sequels.

G DAMEL DELPRAT M.D.

Carramall P: Tissus Reactions and Local Ames thesis (Reacioni timulari ed apestesis locale) Clis ckir., 1935 viii, 1123.

Cazamali reports experiments on guinea pigs in which he determined histologically the reaction of the tissues to infiltration with normal sodium chloride solution a 1 per cent solution of novocain shore and a 1 per cent solution of novocain with about 0 00004 per cent adrenalin which is equivalent to 1 dropp of adrenalin to each cubic centimeter of the powerian solution. One series of experiments was carried out on normal animals and another on snimals in which septicemia had been produced by the intracarduse injection of staphylococcus surreus.

He observed that local anesthesia produced by the infiltration of povocala caused tissue reactions

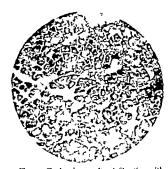


Fig. 1 Twelve hours after inditration with novocain The inflammatory inditration in the ordematous tissue spaces is pronounced and in some places simulates as put inflammation. A fibrinoid reticulum is evident.

which varied in degree and gravity according to whether or not adrenallin had been added to the solution. Infiltration with novocain alone was followed by marked vasodilatation capillary con gestion, and in places, moderate interstitual hemorrhages. These changes began close to the end of the anisathetic effect of the novocain solution and continued for about three days. Resolution occurred with the formation of a small amount of connective tissue (Fig. 1).



Fig. 7 Three days after infiltration with novocain and adrenalin. Abundant granulation tissue in the areas of infiltration and the characteristic accumulations of mobile elements around necrotic fibers are noted.



Fig. 3 Seven days after infiltration with acvocain and adrenalin. Attrophic muscular fibers in the process of disappearing. Granulation these abundant. Large areas of newly formed adult connective these

Infiltration with novocain and adrenalla, besides producing the vascolitation and emolation observed following the use of novocain alone, caused large interstitial hemorrhages and diffuse these necrois. The tissue changes occurring in the process of repair of the destroyed tissue were observed (Figs. 2 and 3). The author attributes this toxic effect on the tissues to the adrenalla and advises arginst the use of adrenalla in local anesthesis.

Infiltration of novocaln or of novocaln and adrenalin in the presence of a staphylococcemia did not predispose to localization of the infection at the site of the injection. Parma A. Rost M.D.

Seegar T: Deaths from Local Anasthesia Induced with Novocain (Ueber Todesfaelle durch certifiche Betarebrag mit Novocain) Arch Obgrav Hellt 1031 (2021), 40.

Novocain poisoning from the local use of novocain is of great interest also to the eye specialist. The author reports a case in which death followed the in-

jection of from 12 to 15 c.cm. of a 3/2 per cent solu tion of novocain and a case in which it followed the injection of from 50 to 52 c.cm. of a 1 per cent solution of novocaln to which a small amount of supra renin had been added. In the first case it occurred while the patient was being prepared for tomellectomy and in the second case at the beginning of a plastic operation on the larvny. In the first case autonsy disclosed a lipomatosis of the heart, a thymus gland weighing 20 gm. and swelling of all lymphatic glands, but especially of those of the neck. In the second case there was a slight lipomatosis, which was quite surprising because seven months previously the patient had withstood a serious opera tion performed under local angethesis induced with a much larger quantity of novocain.

a much larger quantity of novocaln.

The literature reports sixty-iour cases of death doe to novocaln. In twenty three the anesthead was induced for tomillectory. An analysis of all of the published reports indicates that in the majority of the cases the presence of ratus thymnologymphaticus was assumed. On the basis of careful observation and a general consideration of facts the substitute of the control of the cases the substitute of the control of the cases the deaths were caused by an accidental intravascular injection. The theory that represents one strength of the cases the amount of novocaln used was under or gm, which is far below the toric dose. Therefore general poisoning by the novocaln is ruled out.

Grouping of the cases according to the part

affected above that the threat was involved in hirty four it is well known that even a relatively slight mechanical injury especially of the threat, can cause sudden death by the reflex route. In this connection the author cites the investigations of Hering on the sinus carocian refar. "Any irritation of the sinus caroticans may cuse cardiac futter and death from heart failure.

Seeper concludes that the reported deaths occur ing during ansathesia of the threat were caused, not by novocain poisoning but by a disturbance of the stones carotices refer. However similar shock-like effects, originating in the pleura or the dorn my occur in the planchnic region. The basis for individual variations in certain refler mechanisms has not ver been determined. Lowwermer (O)

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Epifanio, G., and Coia, G.: An Experimental Study of Irradiation of the Hypophysia (Ricerche sperimental) sull Irradiazione dell ipofisi) Radial and, 1012 xiz. 1315.

In experiments on rabbits a study of the function of the hypophysis was made by irradiating the gland with the roentgen ravs. Rather hard rays were used —180 kv 2 ma.—and a copper and aluminum filter

It was found that complete suppression of the function of the hypophysis caused death. All of the animals irradiated with large doses died in from seven to twenty-eight days. They showed loss of weight, excheria, anorexia, loss of sexual function apathy, soundelence, and terminal convulsions. There may have been a general tortic action associated with the loss of function of the hypophysis, but the changes found at autopsy differed markedly from those found in animals given general irradiation with large doses. Animals which had been castrated survived even intenso irradiation although they showed signs of great suffering

The experiments demonstrated that the hypophy as has a very important effect on bone growth and sex function. The changes in the sexual organs consisted exentially of atrophy of the testicles, uterus, and ovaries, and weakening or abolition of sexual function. In young rabbits, irradiation of the hypophysis caused arrest of development of the gental organs. In castrated rabbits, it abolished the sexual activity which had been preserved after castration.

In young rabbits, irradiation of the hypophysis with small does caused increased bone growth and in adult rabbits was often followed by hyper calcification of the bones and disappearance of the epiphyseal cardiages. In both adult and growing rabbits it caused alight enlargement of the epiphy see of long bone. Following irradiation with large does there were serious changes in the bones resembling those of human rickets.

Also after irradiation with large doses there was atrophy or disappearance of the thyrmus and thy rold, wherea after irradiation with small doses these glands increased in size. The effect on the suprarenals was just the opposite. The other endocrine glands were not affected.

The anterior lobe of the hypophysis was most sensitive to the rays, the intermediate part less sensitive and the posterior lobe least sensitive of the cells, the addophile cells were the most sensitive. The fact that none of the animals showed polyuria, glycosuria, adjuosity or bullmia confirms the opinion of those who stirbute these changes to

lesions of the nerve centers of the hypothalamic region.

The dose required to destroy the hypophysis was from 90 to 120 per cent of an erythema dose and the stimulating dose varied from 15 to 25 per cent of an erythema dose. AUDREY GOSA MORGAN M.D.

Pohle, E A and Ritchie, G: Studies of the Effect of Roentgen Rays on the Healing of Wounds. II Histological Changes in Skin Wounds in Rats Following Postoperative Ir radiation. Radiology 1933 XI, 102

In a previous communication the authors reported the results of experiments to determine the behavior of skin wounds in rats under pre-operative and postoperative irradiation. It was found that exposure to a dose of 1,000 r given at one time from one to thirty days before the incision did not in fluence the healing process perceptibly doses given immediately twenty four hours and forty-eight hours, respectively after the inclaion retarded the healing process, but did not interfere with the final formation of a smooth scar retardation was most constant in the animals in radiated after twenty four hours. The histological findings were recorded only seven days after the cutting or after complete healing of the wounds. The experiments reported in this article were carried out to investigate the histological changes further by examining specimens taken at intervals of from one to nine days after the incision.

The technique used and the results obtained are recorded in detail. Microscopic examination of the wounds revealed that whereas in an unirradiated incision active repair began very soon after the cutting and definite fibroblast formation could be noted by the end of forty-eight hours at the latest in a treated incision there was a definite retardation of this process. The edges of the wound appeared inactive and aluggish. Fibroblasts, if noted at all, were seen relatively late and in reduced numbers. In addition, there was distinct irregularity of growth and the newly formed cells tended to be atypical. The delay in healing which in the previous experi ments, was observed most constantly in wounds treated twenty four hours after cutting was again noted. It became evident histologically from three to four days after the cutting but seemed most apparent about seven or eight days following incision. The irradiation seemed to have less effect on the epithelium than on the underlying connective tissue. This fact may account for some of the dif ference of opinion regarding clinical results. many cases the upper layers of the connective tissue suffered most so that there was active con nective tissue proliferation in the deeper part of a wound while the superficial parts still showed a well-marked inactivity. Distinct variations in reaction were noted in different animals

different animals.

PADITIM

Cutler, M : Rediation Therapy of Cancer of the Skin. Am J. Rendgesel 193 xxvhl, 724.

Cancers of the akin constitute a group of neoplasma which are isolatable for irradiation therapy as they are midiscanditive and readily accessible to irradiation. A common error in their treatment is inadequate exposure resoliting in incomplete destruction and the establishment of radio-lumnun ity it is very important to give a complete sterilising dose at the first irradiation. Basal-cell and separation of the state of the state

limits his discussion to this method. In order to destroy a radioensitive tumor adequate dosage of gamma irradiation correctly applied should be prolonged over several days. A radioensitive tumor is defined as one with cells which may be completely destroyed by irradiation with our permanent dramage of the tumor bed. Prolong the order of the firmalisation is extracted by the control of the firmalisation is extracted by the control of the firmalisation of the firmalisation is extracted by the firmalisation of the firmalisation of the firmalisation of the firmalisation of the firmalisation is morber requisite for success. Elaborate and detailed studies and the construction of curves indicating the quantity of irradiation have been worked out by Murdook and Simon at the University of Brussels. Though

the irradiation should be prolonged, there is an optimum time interval beyond which it should not extend. According to the French school, the treat ment of cancer of the skin and of the mecous membrane of the tonget should be accomplished in from first to serve days.

The radium is arpiled with fixed plaque or modified applications. When irregular surfaces are involved, the modified applications seem to yield the best results. At any rate, accuracy of application and distribution of the irradiation are of erterne importance. In cases of cancer of the skin which has been previously irradiated treatment is difficult. Estimation of the necessary dosage is impossible. Some leading clinics refuse to irradius such lesions unrither. Surpey or electrocapulation seems of post production in the control of the cont

Of four lesions of the evelids, the author eradicated three by means of plastic moulds. fourth recurred and was treated surelcally intractable picers or so-called mentren and radium hurns. Cutler recommends wide survical excision with plastic repair Keratores produced by repeated radium or roenteen exposures often respond to surface applications. Carrinoms of the lip if in a fairly early stage is treated with a moulded radium applicator permitting exposure on three sides. The dosage used is 0.7 mc destroyed (93 mgm. hrs.) per square centimeter with filtration by 1.0 mm. of platinum Small lesions may be irradiated in a few hours, but from ten to fifteen hour exponeres are preferable. In the treatment of the submental and submaxillary glands, intensive irradiation is in general as effective as surgical removal.

A. IANES LARROY M.D.

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIO-LOGICAL CONDITIONS

Lyon, E.t Primary Congenital Disturbances of Lipoid Metabolism and the Vertebral Column (Primare angeborne Lipoidstottwechnelstoerungen und Wirbelassule) drck. f ortkop Chir. 1932 xxrii, 341

The origin of the disturbances discussed is unknown There are three forms (1) the phosphatid cell lipomatosis of the Niemann Pick type char acterized by leathin, which usually ends fatally in the first or second year of life (2) the cerebrosidecell (cerebroside-cell hepetosplenomegaly) lipoldosis of the Gauchet type characterized by the presence of cerebroside kerasin and (3) the cholesteriacell lipoddosi of the Schueller-Chrattian type,

characterised by cholesterin and its ester

Sometimes the Gaucher and Schueller-Christian types do not cause death until after ten years. The marrow of the bones may be affected by the pathological changes caused by the deposits of lipoid. Especially in Gaucher's disease, the marrow of the vertebral column may be affected. There is a pronounced osseous form which is congenital and familial. The author cites a family in which five brothers were suffering from pathological changes in the vertebral column. In each case the changes had been diagnosed as tuberculous spondylitis. Pick established the differential diagnosis between the two conditions Gibbus may develop in Gaucher's disease as well as tuberculous spondylitis. However in the former condition the interarticular disks are preserved whereas in the latter they are destroyed. In the former there is no evidence of osseous regeners. tion whereas in the latter there is distinct regenera tion leading to synostosis. In Gaucher's disease as well as in tuberculous spondylitis there is severe pain in the spine (lumbago) and other bones which is at times persistent and at times transient. The article includes a photograph of a vertebral column affected with Gaucher's disease from Pick s collection of specimens. It resembles the illustrations of estecporous presented by Schmorl and Junghanns. In this condition the tension caused by the intervertebral disks produces atrophy of the vertebral bodies with penetration of the disks into the vertebral bodies, especially in the lumber region.

Lyon reports the case of a man thirty-eight) ears of age who had suffered from bleeding from the nose and intestines for fitteen years. The patient had pronounced angenia, a characteristic browniab yellow color and marked enlargement of the liver and spicen. The most important symptom for years had spicen. The the back with gradual gibbus formation. The patient had worn a supportive coract. All of the

vertebre were tender to pressure. In the thoracic and lumbar portions of the spane the vertebral bodies were somewhat compressed and the density of their shadows was decreased. On the left and changes in the femur and calcaneas could be detected Examination of the blood revealed anemia, leucopenia, and thrombopenia. The patient died of hemorrhage from the rectum. Autopsy disclosed

typical Gaucher's disease.

The pathological changes which occur quite fre quently in the femur often lend to the erroneous diagnosis of tuberculous coxitis. The vertebræ may be involved also in the Schueller Christian type of disease. In cases of the classical type of generalised xanthomatosis diabetes insigndus exophthalmos, defects of the bones, and enlargement of the liver and spleen occur. Often there are characteristic lung findings such as diffuse shadows from sclerosing fibrosis of the pulmonary tissue. The changes in the skull are more pronounced than those in the rest of the skeletal system. In 52 per cent of the cases the bones of the pelvis and the vertebral column are in volved. Therefore when this disease is suspected the entire skeleton should be examined roentgenologi cally A few cases show attempts at healing

FRANK (Z)

DUCTLESS GLANDS

Ellsworth R: Observations upon a Case of Post operative Hypoparathyroidism. Ball Johns Hopkins Hosp., Balt. 1933 lli 131

The case reported was that of a colored woman hirty-are years old. About two and a half years before her admission to the hospital the patient noticed nervousness, palpitation dysporce, and sweating Three months before her admission she was found to have Graves disease and a double partial lobectomy was done. After the operation she was well for two weeks but began to have engastric distress followed by stiffness in the hands and feet. The attacks were accompanied by a feel ing of tenseness and general nervousness.

On physical examination the hands were held with the ingen extended, but fitzed at the meta carpal joints, and the thumb was extended and abducted. There was a strongly positive Tousseau sign. Chrosteks and Pool a signs were also positive. On a daily intake of 2 gm. of calcium the serum add on a daily intake of 1 gm. of phosphorus the serum phosphorus varied from 5 2 to 6 7 mgm. per 100 ccm. When the daily intake of phosphorus was decreased to 27 gm. the serum phosphorus decreased from 5 5 to 4.9 mgm per 100 ccm. The serum calcium varied from 7 1 to 7 5 mgm. per 100 mgm per 100 ccm. The serum calcium varied from 7 1 to 7 5 mgm. per 100

c.cm. While the patient was on a constant diet yielding 2 gm. of calcium and 0.27 gm. of phosphorus daily ahe was given, at different periods of time, vioaterol, magnesium carbonate, and parathyroid

The viosterol caused a definite increase in the serum calcium and phosphorus. When magnesium carbonate was given the phosphorus was definitely increased and the calcium somewhat decreased. When the parathormone was given the serum calcium was definitely increased, the phosphorus was decreased, and the patient was almost completely relieved of all symptoms. When she was given large doese of calcium, namely 4 gm. dally in the form of calcium chieride, the Trouseau sign was delayed, the serum calcium cos from 6 to 16 8 mgm. and the hoorpanic phosphorus fell from 6 9 to 4.5 mgm. per 100 c.cm.

The classical findings of idepathic parathyroidism are (1) a high content of phosphorus in the serum (3) a low content of calidum in the serum (3) a low content of phosphorus in the urine, (4) a low content of calcium in the urine, (5) tetany often exaggerated by creetion, (6) a tendency toward cataract forma thos, and (7) normal resentges appearance of the

In the cases reported it was found that the degree of tetany depended not only on the serumcaldum level, but also on the serum-phosphorus level. When the calcium was high, active tetany was precipitated if the phosphorus was also high. Even theorgh it caused an increase in the serum calcium, the administration of irradiated ergosteroldid not have a good effect because, concenditant with this increase there was also an increase in the serum phosphorus. Magnesium saits caused a definite increase in the serum phosphorus, but the tetany became latent, a fact soggesting that the magnesium may have rendered inactive some of the looperance phosphorus. In the blood. Parathyroid extract caused a cessation of all symptoms associated with a rise in the serum calcium and a decrease in the serum phomboms.

ALTON OCHRERA, M.D.

Cecil, H. L.: Hypertension, Obesity Viriliam, and Pseudohermaphroditism as Caused by Suprarenal Tumors. J. Am. H. Ass. 1933, c, 463.

Pheochromocystomats cause paroxysmal hypertension by producing large amounts of ephesphain and suddenly releasing them into the blood stream. Sometimes they cause a constant hypertension, heither atrophy nor absence of the opposite superrural has been found associated with these tumors. Hypertension is caused also by cortical tumors Following removal of the tumor the pressure returns to normal.

In pseudohermaphrodilism of the congenital type removal of one suprarenal, even when it was eniarged, has had no beneficial effect on the anomaly Much can be done by plastic surgery. The sex should be determined and the anomaly corrected accordingly.

In pseudohermaphrodilism of the acoulted type

removal of the tumor or in cases with hyperplants,

mined.

of one suprarenal, has been followed by very gratifying results.

There are great variations in the type and degree of the change. In boys, the change is toward the adult. In girls and women it is toward the adult male type. After onlyery in males and after the

menopsuse in females no change is noted.

A review of case above rather conclusively that
the superienal opposite the tumor strophies and is
not cooperatizely about. All degrees of attrophy from
a slight beginning to total absence have been observed. This fact is of the greatest importance, as
the removal of one superienal cannot be done with
safety unless the condition of the other is deter

HOWARD A. MCKNOWT M.D.

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INTERNATIONAL ABSTRACT OF SURGERY

AUGUST, 1933

COLLECTIVE REVIEWS

GASTRODUODENAL ULCER

SAMUEL J FOGELSON M D F.A.C.S CHICAGO

THE 1032 literature on gastroduodenal ulcera tion shows a trend which is interestingly different from that of previous years. There are fewer surgical reports describing the endresults obtained from the various types of surgical intervention, particularly those of a radical nature. Internists and surgeons still debate the relative ments of their respective types of therapy but in general the literature shows a tendency toward closer cooperation between the surgeon and internist. There is also noted a critical investigative spirit as to etiology physiology pathogenesis and psychoneurological factors in the genesis of peptic ulcer

One of the most constructive reports on the subject was presented by Cushing (22) in his paper entitled Peptic Ulcers and the Inter brain. Cushing demonstrated that lesions of the upper gastro-intestinal tract may be associated with intracranial disease, thus substantiating the neurogenic theory of gastroduodenal ulceration. Of the 11 cases which are reported in detail, 10 came to autopsy early enough practically to pre clude any possibility of postmortem digestion, The findings varied from acute hæmorrhagic erosion and perforation to esophagogastric mala cia. The literature is reviewed and confirmatory evidence presented for correlating cranial lesions with gastro-intestinal lesions. Rokitansky's teachings, which first suggested that an ulcerative process of the upper alimentary tract may be of neurogenic origin is emphasized and additional evidence given, not only from Cushing's clinic, but also from many other important sources. Whether these peptic lesions may be due to para

sympathetic (vagal) stimulation or to a sympathetic paralysis must remain conjectural until more precise data are at hand. However in man stimulation of the parasympathetic center by intraventricular injections of pilocarpin or pitui trin causes increased gastric motility hyper tonicity and hypersecretion plus retching and vomiting Similar results with observed patches of hyperaemia in the gastric mucosa have been shown to follow direct electrical excitation of the tuber cinereum in animals. Under normal con ditions the parasympathetic system is un doubtedly strongly affected by cortical as well as psychic influences. This may lead to direct stimulation of the tuber or its descending fiber tracts which is theoretically the same thing as a functional release of the vagus from inhibition by antagonistic sympathetic fibers Hypersecretion, hyperchlorhydna, hypermothity and hyper tonicity of the gastro-intestinal tract, most marked in the pylone segment, are thus induced Spasmodic contracture of the musculature possi bly supplemented by local spasms of the terminal blood vessels, produces small areas of ischemia or hamorrhagic infarction leaving the overlying mucosa exposed to the digestive effects of its own hyperacid juices. It is thus possible to reconcile and correlate the neurogenic theory of ulceration sponsored by Rokitansky with Virchow's theory of a primary local cause as well as with von Bergmann's spasmogenic theory irrespective of whether the lessons are considered simple eromons, acute perforations, autodigestive softening. or chronic ulceration involving the upper gastrointestinal tract Although all this may appear

largely theoretical, it can certainly be used not only to correlate and explain the psychiatric treatment of peptic ulser but also to establish continuity with the basic investigations of physiologists on the relationship between the autonomic nervous system and gustro-intestinal function.

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Meyer's (72) interesting paper on the psychiatric aspects of gastro-enterology has the objective of directing the physician, who is taught almost exclusively to study ports of the organism and their functions to take an interest also in the total functions of the person. Meyer's plan was to correlate what he terms "personality functions, or mental factors, and consideration of part

function and "total function of the patient.

In the malliunctions of the storach or colon structural functional, due to some local disorder or is it essentially derangement due to collisions with other particular components either of the gastro-intestinal structure and function or some other organ complexes or of personality functions? We may find in a more or less autonomous form, a neurological involvement of the vagosympathet is balance. This again can readily be correlated

with the new theory presented by Cushing (22) Ryle (oa) in an article entitled. The Natural History of Duodenal Ulcer has again stressed the fact that persons with picer are distinctive human types or constitutions within whose constitutions we may ascertain certain physical blochemical and psychological variances which, between them, supply what we may call the "ulcer diathesis. He says, "We find again and again that our nationts are lean and nervous, most often tense and muscular with brisk mental and physical reactions. Psychologically, these folk are energetic, restless, conscientious, intent on their projects, and not seldom, given to anxiety of mind. Recognition of these facts is essential to a proper understanding of the disease and to handling of the cases. Highly nervous individuals should often be deemed unsuitable for surgical intervention. Psychological as well as physical regulrements must be carefully studied "

braper and Touraine (27) have followed the same general trend and conclude from their observations that there is a peptic uber race," with characteristic inherited qualities which are modified by worldly influences. There are definite ulcer families which have characteristic general anthropomorphic and anthropopayehic similanties. The similarity between persons with peptic ulcer and sympathectonured animals is emphasized. "It would seem that these peptic ulcer poonle possess an inadequate sympathetic nervous system. This inadequacy may be the result either of an inherited weakness or of a wearing out process." Twenty-two cases of gastroducdenal lenons afforded the basis for an explanation of organic disease in Individuals of the susceptible type. To Draper and Touraise, analytical psychology seems at present to afford the most stifurator a normach.

Bove (11) has a very similar oninion as to the cause. He believes it is of the greatest importance to recognize a neurosomatic constitution charac terized by marked nervous symptoms in which peptic ulcer occurs only as "an episode in the neurons. The veretative nervous system constitutes a point of contact between the psychic and the somatic systems which at no time can be separated. Neurovevetative disharmony has been emphasized by you Bergmann to be of the greatest importance in ulcer general. Most Datients show marked neuroveretative symptoms prior to definite picer formation. Experimental vagus imptation has been followed by rasints which may readily lead to true pleeration. These patients show cardiovascular instability profess sweating (hyperhydroxis) examenated reflexes, dilated punils with unusually rapid response to light, bradycardia, and stiemata of instability of the vegetative nervous system, as well as other psychic lability

According to Duschi (s8) histological examination of the nerves of persons with ulcer showed changes such as pylmosis, shrinking and swelling of the ganglion cells, round-cell invasion, and periocural lymphatic militration not only in area adjacent to the ulcer but also at a distance from the lesion. A fine, regularly streaked, localized deposition of fat was a contant finding. This was associated with chronic extarth of the entire gastritis moons and a marked localized chronic gastritis in the immediate vicinity of the ulcer. However the chronic gastritis is not typical of ulcerated stomach alone, since it may be found in national dupus from causes other than ulcer

The exact relationship of the vague new to chronic peptite ulcer has long interested clinicians and physiologists. Best and Orator (6) performed a series of interesting experiments to demonstrate the pathological relationship between primary traumatic ulceration or inflammation in stomatic wall and pathological changes of the visioners or various nuclei in the medulia obloquist largetimes of staphylococum aureus into the stomatch walls of 10 rabbits leading to fairly performed howed "no definite constant historyical changes in the nerves. A few sections showed in the changes such as a light very minor pathological changes such as a light

vacuolation, slight tigrolysis, or a slight decrease in clearness and sharpness of the cell body out These changes were minor and indefinite and were found, not only in the vagi, but also in the sciatic nerve which was used as a control. The minor pathological changes in the nerves could be explained easily on a general toxic basis. As it was impossible to establish a pathological rela tionship between the vagi nerves with the primary lesions in the stomach, the procedure was then reversed and the vagus chronically unitated in an attempt to induce pathological changes in the stomach. Strips of magnesium were wrapped around the right or left vagus nerves of 6 dogs having Paylov pouches. In periods of from one to four months after the vagus operation the abdomen was opened and the stomach and duodenum were carefully examined. Ulcer of the atomach or duodenum was not found in any case.

The vagus nerve and its relationship to eastric secretion was further studied in dogs by Frieden wald and Feldman (39), who sectioned the vagus at various levels, having first determined a standard response in these animals to 50 c.cm. of 7 per cent alcohol as well as to o.cors gm. of histamin. The experimental observation period varied from three to twelve months. The results of the experiments showed that while at times changes in gastine secretion occurred because of section of the vagus nerve, these are inconstant, there is likewise a general tendency for this secretion to return to normal when it is diminished as a result of the operation. An interesting finding of this study was the marked decrease of response following histamin stimulation in the animals in which the anterior branch of the left vagus nerve was severed, although the response to the alcohol test meal compared closely with that observed m the normal When the left vagus nerve was severed in the neck, practically the same results were obtained Section of the right vagus had practically no effect upon gastric secretion.

Baxter (6) stimulated the splanchnic nerve electrically just below the diaphragm and severed the vagi in the neck or ligated them in the vicinity of the ersophagus below the diaphragm. In all cases, by rhythmic stimulation of the splanchnic nerves, he obtained secretion of thick, alkaline mucoud fluid beginning during the first hour of stimulation and continuing at a steady rate throughout the experiment. The material secreted had a moderate peptic activity with a chloride content signify lower than that of gastric juice. Atropin did not abolish the secretion. The same type of secretion was obtained in a series of experiments with the repeated injection of epi-

nephrin These results indicated that the sympathetic nervous system has a definite relation to the mucoid secretion of the gastric mucosa.

An experimental study by Pacetto (79) on the genesis of gastric ulcer demonstrated the interest ing fact that in any productive experimental investigation of this subject both the vagi and the sympathetics must be considered. In his research on the rôle of the nervous system in the genesis of chronic gastric ulcers, Pacetto found that negative results followed section of either the vaga or the sympathetics, but when the vagi were damaged by injection and the sympathetics were severed in the same manner ulcers consistently resulted Forty days after the initial intervention these lesions were very extensive Pacetto concluded, therefore, that the damage to the autonomic nervous system is the most important factor in ulcer genesis.

In a study of the secretion of gastric pouches which were transplanted subcutaneously with intact blood vessels, Klem and Arnheim (55) demonstrated that an investigation of gastric secretion requires more than a consideration of the various nerve components innervating the gastroduodenal mucosa. From two to four weeks after the transplantation the blood vessels were severed and in this way pouches entirely free of intrinsic nerves and with a new peripheral circulation were obtained. Any stimulants leading to secretion from such a pouch must be humoral. The pouches responded to the sumulation of a meal by the secretion of hydrochloric acid and pensin. Hista min in 0.0005-gm. doses also produced a secretion after a latent period of fifteen or twenty minutes. The results of these experiments were interpreted as added proof that the stimulation was carried to the gastric glands through the blood stream. This stimulation may act upon either the intrinsic gastric plexus or the gastric secretory cells themselves. To determine which is affected, Klein and Arnheim prepared a gastric pouch of the gastric mucosa and submucosa alone removing the muscularis and serosa to deprive the transplanted gastric pouch of Auerbach s plexus. The response to food and histamin in the transplanted gastric pouches deprived of Auerbach s plexus as well as of vagus and sympathetic nerves and normal gastric blood supply was the same as that in similar pouches in which the muscularis, serosa, and Auerbach's plexus were intact. This indicated that the stimuli for secretion apparently reached the pouch through the new abdominal blood supply and acted on the secretory cells themselves or upon the neurocellular substances. Of further interest was the fact that the secretion could be inhibited by atropin, but still responded to histamin.

As a result of further study of the use of hatta min as a stimulant to the gastric mecas: clinical and experimental investigations or gastric secretion have made definite progress in cleasifying true achiorhydria with the associated anemias. Vineberg and Babikin (108) have demonstrated in the dog that histamin stimulates and secretion alone flucin and other constituents are unseffected. In general, this has been confirmed clinically by many reports.

Comfort and Osterberg (20) found histamin of value in distinguishing true from false achylia. Their experience led them to conclude that the response of gastrac secretion to histamin greater value than the response of the Ewald meal in the differential diagnosis of peptic nicer and The advantages of the eastric carcinoma stimulus of histamin over the Ewald meal are not great enough to warrant the adoption of the fractional method with simulation by histamin as a routine Histamin is of most value in chemical atuches after resection of the atomach or gastroenterestoms when it discloses free acidity which has been masked by the neutralizing influences of the base in regurgitated duodenal or jejunal inices.

Gattic achyla was studied by Streicher (101) who contrasted histamin and 7 per cent alcohol as a stimulant of gastne secretion. Streicher s observations indicated that in some cases histantia is a more powerful stimulant of gastne acidity than 7 per cent sleobol, but that in 40 per cent of cases the gastne acidity curve stimulated by alcohol is the same as that of histamin. However some of the patients had marked tone reactions which were slamming enough in their seventy to more than counterbalance "the comparatively Infinitesimal amount of information gained."

The ability to determine the presence of an achierhydria definitely has, however, stimulated interest in this subject and has led to further work on the anemnas following achylia gastrica

In a clinical study of schlochydria, Moore (y_A) found 2y_B cases of achiebrydria in 1,285 patients. Thrity three of these occurred in 83 cases of datheters mellitus and 3y m 4y cases of hyper thyroidism. There were 33 cases of son-megalocyte ansents in which the patients compalized of weakness, palpitation dyspaces, and digestive disorders. A frequent finding was stroptic superficial glossatis very samilar to the type found in per inclous anorma. Pararthesis and agms suggesting subscute combaned degeneration of the cord were not observed. There was usually a marked

hemoglobin deficiency and the degree of anisocytosis and polikilocytosis was usually proportional to the severity of the amemia. With the erception of the associated achlorhydria, the came of this non-megalocytic ansemia is not known.

It is probably due to deficient formation of hemoglobin it is not hemolythe or hemorrhagic in origin and its appropriate treatment with iron gives eminently satisfactory results."

Hurst (52) has collected 7 typical cases of addisonan pernicious anemia following imple gastro-enterotomy without resection. Vanghan (100) has added 3 more and has reviewed the literature on 122 annilar cases of anemia following gastro: operations.

Two additional cases were described by Rowlands and Levy Simpson (91) who believe that an important etiological factor is the post operative chronic diarrhoes, which is probably secondary to an unusually rapid emptying time of the stomach. The possible relationship between this type of anaemis and carcinoma of the atomach becomes apparent. Achlorhydria occurs frequent ly with malignancy of the stomach, and it is burely possible that (30) As time goes on and earlier diagnosis and improvements in operative technique enable more patients to survive gastrectomy for a sufficient length of time, pernicious anemia will probably be encountered more frequently Indeed it may be found that every patient whose stomach has been completely removed will de velop pernicious anarmia. Partial resection of the stomach may also be a sufficient cause for per nacious anaemia. The question may be raised as to whether carcinoma of the stomach itself by destroying a large portion of the gastric mucos may cause permicious anamia. The question of whether pernicious anemia may be caused by gastric carcinoma can be solved only by a reliable criterion for distinguishing pernicious from secondary anemia

A study of the relationship between gastric neoplasms and achierhydria leads to the much debated problem of gastric carcinons and chronic gastric ulcer. This has been clarified during the last year by a study of the basic histopathological foodings.

In a critical and strictly objective report on the titological relationship between chronic gattre under and gastric carcinoma, Kittelson (34) reviewed the important contributions on the reject and showed the necessity for a more accurate hatopathological definition of malignancy before any detailet statistical conclusion may be drawn Anacidity or hypo-andity is not an important criterion "The topography of gastric user says."

gastric carcinoma is the same. Eighty per cent of gastric cancers originate in the pyloric end of the stomach. The pathological rules whereby a cer tain ulcer is to be adjudged simple or malignant have not been definitely agreed upon.' However the investigations of Holmes and Hampton (51) on the incidence of carcinoma in certain chronic pleerating lesions of the stomach would lead to the conclusion that the location of the lesion is of considerable diagnostic value because 75 of 121 carcinomata occurred in the prepyloric area of the stomach. From a study of the literature and their own cases they conclude that it is fair to state that a chronic indurated ulcerating lesion occurring in the pylonic antrum within 1 in. of the pylorus but without involving the pylorus should be considered malignant unless proved to be otherwise and that proof of the absence of malignancy in such lesions is obtained only by serial sections and careful microscopic examina tion. It is not safe to interpret such lessons as benign from roentgen examination alone or from observation on the operating table

Cole, in discussing their paper took radical exception. He feared that clinicians less experienced in roentgenology would attempt to generalize from the data presented by Holmes and Hampton to solve their gastric cancer problems. He said ' Acceptance of topography as a prime factor in the differential diagnosis of malignant tumors of the stomach would set back the science of roentgenological diagnosis of gastro-intestinal lessons by nearly two decades in fact almost to the period when reports read. There is a filling defect of the stomach which can be proved malig nant or non-malignant only by surgical explora tion. In fact, I think it would be worse than this because those inexperienced in interpretation may derive a sense of false security of non malignancy in lessons along the lesser curvature, and still worse, be led to innumerable partial gastrectomies for non malignant lessons that would heal in a short time under proper medical treatment. The fatalities as a result of operative intervention in non-malignant pylone lesions would far exceed the five- or even three-year cures of gastric ulcer that might result from partial gastrectomy differentiation between malignant and non malignant lessons of this region can be made in the vast majority of cases based on a single complete serial examination. In the few cases in which this differential diagnosis cannot be made from a single examination, a subsequent examination in two or three weeks will almost certainly give a differential diagnosis between a benign and a malignant lesson "

An attempt to clarify the confusing and con flicting opinions on the relationship between peptic ulcer and gastric carcinoma was made by Newcomb (77) in a study of 307 stomachs with 154 simple chronic gastric ulcers 46 gastric carcinomata, 75 duodenal ulcers, 7 jejunal ulcers, 4 subscute gastric ulcers, and 112 surgical specimens of carcinoma of the intestine. Newcomb a objective was to demonstrate reliable histolog ical criteria for differentiating between the 2 lesions. It was found that as the healing process of the ulcer progressed, the overhanging muscu lars mucosæ and the spread-out fibers of the muscularis became approximated and eventually fused. This close approximation of the muscularis mucose and muscularis was present in some part in all but 2 ulcers in the series. The 33 gastric carcinomata studied showed that the malignant cells grew and spread centrifugally in all directions separating the muscularis mucosæ from the muscularis The finding of such fusion is the only definite evidence of previous ulceration, and before it is possible to conclude that any car cinoms developed in a previously existing ulcer this evidence must exist. It is suggested that the presence of these criteria is as valuable as the demonstration of the tubercle bacillus in the diag nosis of tuberculosis.

The medical treatment of gastroduodenal ulceration has shown few new developments. The advocates of the pensin treatment developed by Glassmer (43) continue to report encouraging re sults. In cases of postoperative gastroiciunal ulcers, Docimo (26) obtained practically no results from this therapy Villert (107) is encouraged by the results he has obtained by autobemotherapy Aluminum hydroxide is recommended by Einsel and Rowland (31) Emery (32) has found X ray treatment of value Martin (65) regards foreign protein therapy of value. Kohn (57) has obtained results which have been most encouraging in many instances little short of miraculous by the intravenous administration of various concentrations of citrate and salme properly buffered. Brown (16) and Atkinson (1) obtained encourage ing results with Fogelson's gastric much therapy of peptic ulcer Bloch and Rosenberg's (11) experiences with mucin therapy have been on the whole relatively discouraging. It is interesting to note that Leriche (61) hopes to clarify not only the enology but also the treatment of peptic ulcer by a more thorough investigation of mucin secretion in the gastro-intestinal tract. Bucher (18) attempted such a study and reported its colloidal chemistry laying particular emphasis on the swelling process which occurred in acid media 94

and increased the elasticity as well as the internal coherence and viscosity. He concluded that the protective action of the gastric mucus is due to the fact that in the state of acid congulation it presents the optimum of mechanical quality as well as of chemical inactivity or neutrality. A study of the antipeptic capacity of mucin by Babkin and Komarov (2) has confirmed Fogelson's earlier investigations. In addition, Babkin has frac tionated the crude mucin and suggested greater possibilities of control of peptic activity by the

lipoid and mucottin-sulphune acid fractions The experimental studies in gastric physiology by Shay Katz, and Schloss (04) may be considered significant in establishing in man the doubt ful rôle played by duodenal regumntation in the control of gastric acidity. The results of the chnical experiments of these investigators, substantiated by the results obtained by others in certainly seem to warrant a skeptical attitude regarding the efficacy of duodenal regur gitation in the control of gastric acidity using bromsulphalein, which is secreted by the liver into the second portion of the duodenum and is readily recognized. Shay. Katz, and Schloss had available an ideal substance for testing duodenal regurgitation. The patients were studied for duodenal regurgitation at successive weekly intervals with the use of test meals of soo c.cm. of tap water at room temperature, a solution of hydrochloric acid varying from 0.3 to 0.5 per cent, and a solution of sodium bicarbonate varying from 1 to 5 per cent. These investigators were entirely unable to correlate the amount of duodenal regurgitation as measured by the concentration of dye in gastric contents with the degree of change of gastric acidity. The greatest amount of dve regurgitated in all the experiments yielded a reading of 100 per cent and occurred during the course of a plain water menl in a case of true achylia gastrica. When acid was introduced into the stomach there was a rapid reduction of acidity which could not be secondary to duodenal regurgitation and was interpreted as neither neutralization nor dilution but probably abcomplian.

Similar reduction of pH in hydrochloric acid or sulphuric acid was observed by Goldberg (44) in isolated gastric pouches. Goldberg also conciuded that the stomach has an intrinsic regulatory mechanism for controlling its pH

Conversely after a series of ingenious experiments. Matthews and Dragstedt (68) conclude that preventing the regurgitation of alkaline duodenal juices into the stomach of normal dogs by fixing a valve in the pylorus raised both the

free and the total acidity of the gastric content after a standard test meal, delayed the neutralintion of o. t per cent hydrochloric acid placed in the stomach, delayed the healing of acute ulcers in the gastric mucosa produced by the injection of silver nitrate, and caused the appearance of spontaneous ulcers in transplants of intestinal mucosa setured into defects in the stomach wall.

In studies on the effect of subtotal gastric resection in the dog Fauley, Straum, and Ivy (13) found that resection of at least 66 per cent of the stomach in 10 of 12 does resulted in varying degrees of compensatory hypertrophy of the gastric remnant. The emptying time of the stomach was permanently decreased in spite of hypertrophy The acidity of the gustric contents returned practically to normal in from three to five months.

An experimental study of resection of the pylorus and its effect on the secretory and motor functions of the stomach by Thompson (ros) demonstrated that the acid values of castric contents subsequent to the ingestion of test mesh varied directly with the amount of pylorus removed. Removal of the pyloric aphincter had practically no effect upon the acid values of the gastric contents. Removal of the distal half of the pyloric antrum slightly reduced acid values, while removal of the entire pyloric antrum led to marked reduction of the hydrogen-ion concentration and total acidity no free acid being present. However when historian was used as a pastric stimulant there was no reduction in acid values regardless of the amount of stomach resected. When Pavlov pouches were constructed from the fundi of pylorectomixed dogs, the gastric acidities were lower free hydrochloric acid being absent, but the secretion of the Pavlov pouch made from the fundus had normal acid values suggesting that the post operative achierhydria was more apparent than real. The part played by duodenal fulces in the reduction of gastric acidity following pylorectomy was studied by substituting a Roux jejunojejunostomy in 3 animals which had previously been subjected to a Polya gastrojejunal anastomosis. Exclusion of the duodenal contents from the stomach by operative procedures resulted in only alightly higher acid values in the gastric contents "This indicates that the duodenal juices which enter the stomach normally or after resection of the pylorus possess a slight degree of buffer value neutralizing power

The factors influencing the prognosis in the medical treatment of duodenal ulcer were studied by Jordan and Kiefer (53) in 60 patients with duodenal ulcer who had undergone medical treat ment in the Laher Clinic with unsatisfactory exdresults. A history of hæmatemesis or melæna was obtained in 15 per cent of the cases with successful results and in 55 per cent of those with un successful results. The relatively much higher madence of hemorrhage, particularly repeated hemorrhage, in cases with unsuccessful results indicates that the frequency of hamorrhage is of considerable value in the estimation of the proba bility of success or failure of medical treatment. Night pain and distress were twice as common in the cases with unsuccessful results. Physical findings were relatively unimportant in the prognosis. The disappearance of the duodenal deformity in 70 per cent of the cases with successful results and improvement of the duodenal out line in 20 per cent more, leaving only 10 per cent in which the duodenal deformity remained un changed is of particular significance when compared with the lack of improvement in the X rav defect in 51 per cent of the cases in which the pain recurred later Gastric retention was a times as common in the cases with unsuccessful results although its presence does not preclude satisfactory recovery under medical management

Hamoribage is important not only in the prognosis but also in the mortality associated with medical management, and according to Chiesman (19) may be used as a guide in deter mining when surgical intervention is midicated for gastroduodenal bleeding. The question arises whether or not the history offers any undication as to the probable failure of medical treatment.

It is exceptional for a single hamorrhage from peptic ulcer to lead to death. The striking fact about the fatal cases was that in all of them the hamorrhage continued or recurred after the patient's admission to the hospital in spite of medical treatment. In the cases of 62 patients admitted for gross harmorrhage in which the bleeding continued or recurred twenty four hours after the beginning of treatment, there were 46 fatalities a mortality of 74 per cent. Postmortem examination of 45 of these patients revealed that the common cause of the repeated harmorrhage was a partially eroded vessel of considerable size in the floor of the ulcer. In most cases the hemorrhage continued for several days. In 1 case there was continued bleeding for one month before death. The shortest time from the onset of the hamourhage to death was forty-eight hours. Accordingly there was ample time for surgical intervention in all cases if it had been considered destrable.

Lahe, (59) regards hemorrhage as an indication for surgical intervention, but believes the most dangerous time to operate upon patients

with gastroduodenal ulcer is immediately following the occurrence of bleeding. The mortality due to hamorrhage from a gastric or duodenal ulcer in the Lahey Clinic is relatively low not more than a per cent. With transfusions to restore the condition of these patients we may in certainly most cases, delay surgery with the very probable hope that the hemorrhage will cease and they can be operated upon under more favorable conditions following transfusion when they have at least in a considerable measure regained their vascular balance.

In general, surgical opinion agrees with Lahey (60) who believes that of the indirect operations, pyloroplasty is superior to gastro-enterostomy and is associated with a lower mortality. Of the direct operations, partial gastrectomy yields the highest percentage of cures, but has the highest mortality.

In view of the present limited knowledge of the cause of gastroduodenal ulceration we are hardly justified in being too dogmatic about any method of treatment, he it medical or surgical Before starting treatment in any case consideration must be given not only to the pathological conditions present and the patient's previous history and his psychic constitution, but also to his capacity or intention to cooperate and appreciation of the necessity of modifying his habits of life to reduce the incidence of recurrence. When this has been done an attempt should be made to profit from our previous experiences and treat our patients always with the objective of affording them the most marked relief from symptoms with minimal mortality and morbidity

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ABDOMINAL PREGNANCY

EDWARD L CORNELL, M.D. F.A.C.S., AND A. F. LASH, M.D. Ph.D. F.A.C.S., CHILAGO

UR study is based on 216 cases, 226 from the literature and 10 of our own. Two of the latter were seen in private practice and 8 at the Cook County Hospital.

Many case reports in the literature were incom plete. Nearly all mentioned what was done at operation, but in many of them other details which we desired to study were omitted. Not every case has been included in our review as some of the articles were inaccessible.

Abdominal pregnancy was recognized in patients as young as fifteen and as old as sixty four years. The sixty-four year-old patient had carried her fetus for forty years. The age groups were as follows

TABLE L-AGE GROUPS			
Tear	C	Text	CM
15-10	7	35 39	51
90-14	27	40 f	1,
5-29	51	64	
30-34	45	Not recorded.	3-

Abdominal pregnancy occurred most frequent ly therefore, between the ages of twenty and forty years, as was to be expected. It was most frequent also in the first and second premancies as is demonstrated by Table II.

TABLE IL-NUMBER OF PREGNANCIES

No of programming	Patamete	No. of programation	Patent
I	60	8	1
•	62	0	6
•	30	10	0
4	1	1	0
\$	8	Not recorded.	33

Sixty-two of the women had not been pregnant previously The character of the previous preg nancies of the others was as follows

TABLE III - CHARACTER OF PREVIOUS PREG-WANCITS

Ċ.
64
20
16
1
,
1
70

Only 4 of the patients had had a previous ectopic pregnancy

The incidence of abdominal pregnancy according to race is shown in Table IV

TABLE IN - RACE INCIDENCE OF ADDOMINAL

	PREGR	NANCI	
Recy	Patacata	Lere	Patients.
White	145	Indian or Hind	•
Colored	35	Stameso	ſ
Japanese	-3	Burmete	1
Chipese	•	Vot recorded	41
Efficience			

Whether we should conclude from the figures in Table I\ that the incidence of abdominal preg nancy is highest in the white and colored races, the authors are not prepared to say It is possible that this type of pregnancy was not reported by physicians in the Orient.

The period of amenorrhoes was noted in 86 cases, as shown in Table V Eighty per cent of the patients had amenorrhora for dx months or longer The patient with amenorrhoes for twenty eight months was operated upon in the fourteenth month for full-term abdominal pregnancy Drainage from the wound continued for fourteen months. At the end of that time a second oper tion was performed and menstruation began again. In I case there was no period of amenorabora.

TABLE V -- PERIOD OF AMENORRHEA

Period	Patients	Period	Patient
6 weeks		to months	8
3-4 months	7	11 months	4
5 months	3	12-15 months	4
o months	3	16 months	1
7 months	ğ	17 months	7
8 months	15	a8 months	r
o months	24	Not recorded	151

As the character of the last menstrual period was mentioned in only a few instances we may conclude that there was very little irregularity. In 1 case, the period was fifteen days late and in 2 cases there was contunued spotting. Early bleeding that is occurring within the first three months of the pregnancy, was recorded in 62 cases. In some of the cases bleeding occurred late. In 11 cases there was shock. In 12 cases no bleeding occurred throughout the pregnancy. In 160 cases there was no record with regard to the occurrence or non-occurrence of bleeding. The incidence of bleeding in the others is shown in Table VI.

TABLE VI -BLEEDING

Туре	Early	La
Spotting	35	5
Continuous	10	15
Irregular	17	31
Clous		5

Severe shock before operation was evidently infrequent ance it was recorded in only a few cases. In a number of cases shock occurred early in the pregnancy and a diagnosis of ruptured ectopic pregnancy was made but operation was refused. Fainting and duziness were rather frequent, as is seen in Table VII. The 5 patients with severe pain were more or less confined to bed during part or all of the latter half of pregnancy Intestinal symptoms were noted in a number of

TABLE VIL-SYMPTOMS	
formptones.	Cane
Dizzines	
Fainting	
Pain	34
Upper abdomen	16
Lower abdomen	
Upper and lower abdomen	109
Cramps	1
Severe pain (location not recorded)	7
Anarexia	5
Namea	
\coniting	6
hauses and vomiting	\$ 0
Diarrhora	15
Constipution or obstipation	2
Marked loss of weight	13
o symptoms	3
ot recorded	1.4
	75

reports. There seems to be no uniformity as to the time nausea or vomiting or both may occur In a few of the cases reviewed the intestinal symptoms were very pronounced

The location of the fetus was noted in 58 cases in which the pregnancy advanced to the seventh month or more. The fetus was located high in the abdomen in 17 and low in the abdomen or in the pelvis in 20. In 21 cases it lay transversely. Be cause of the frequency of transverse presentation in abdominal pregnancy in the case of every natient with a transverse presentation.

Abdominal pregnancy was seldom complicated by other diseases or tumors. Rupture of the uterus was recorded in 3 cases. In 1 it occurred in an old cesarean section scar. In 2 it followed trauma and the pregnancy was allowed to continue. Tokemia of pregnancy developed in 8 cases and pre-eclampsia or eclampsia in 6. Fi broids and ovarian cysts were each found in 3 cases.

In a number of cases fetal life was not felt until late as is shown in Table VIII Fetal death was noted as late as twelve months after the last menstrual period. As this information was obtained from patients it is questionable whether the reports are accurate

TABLE VIII.—PERIOD AT WHICH FETAL LIFE
WAS FIRST FELT

Period	Cases	Period	Case
Fourteenth week	4	Sixth month	r
Fourth mouth	15	Seventh month	
Fifth month	13	Not recorded	192

TABLE IX.—PERIOD AT WHICH FETAL LIFE CEASED

Period	Chara	Period	Cases
Fifth month	1	Tenth month	8
Sixth month	5	Eleventh month	
Seventh month	21	Twelfth month	
Eighth month	10	Not recorded.	170
Minth month	ıŔ		•

In the first trimester of pregnancy the presence of an ectopic pregnancy can usually be recognized but the abdominal location of an ectopic pregnancy can be determined only by pathological examination. In the second and third trimesters the symptoms may be similar and the diagnosis is made directly on the basis of a history of pain in one iliac fossa associated with spotting in the sixth or eighth week of pregnancy which is indicative of the time of occurrence of the tubal abortion or rupture giving rise to the abdominal pregnancy. In primary abdominal pregnancy there is usually no history of pain or bleeding.

The course of the pregnancy is generally characterized by pain in the illac forms or around the umbilicus. Term is reached, but ishor does not begin or the abdominal dustress is mistaken for allow Abdominal and vagunal examinations are of importance in the diagnosis. On abdominal apipetion the abdomen is found to be ensitive but no uteruse contractions can be stimulated the round laguments cannot be pulpated. The child is very readily felt and is close to the surface. The fetal beart toors are loud and near the surface. The child usually her in an abnormal position, i. e. a transverse or oblique position or high in the abdomen. Occasionally aportier

mass, the non pregnant uterus, may be pulpable On vaginal examination the cervair is usually found high behind the symphysis in an abnormal portition or pushed down into the vagina so that it reaches or extends out of the orifice. The corpus may be felt as a structure separate from the gestation sac, but associated with the cervix. Careful exploration of the uterine excity with a sound may be of further diagnostic aid although in if of our own cases the uterus was perforated by a sound. \text{N asy vasualization of the uterine cavity with the aid of lipiotol may help and a roentgenoram may clearly indicate a peculiar position and an unusual amount of freedom of movement of the child manifested by extension or a stringle

position of the extremities.

The various conditions with which the abdominal pregnancy was confused are listed in Table \(\frac{1}{2}\). The value of pituitrin as an aid in the differentiation of full-term intra uterine pregnancy from extra uterine pregnancy is questionable.

The fact that only 35 per cent of the cases of abdominal pregnancy were diagnosed correctly before operation indicated that the signs of the condition about be emphasized more than has been done previously. Aside from the diagnosis of normal pregnancy the most common erroneous diagnosis was that of tumor such as a fibrod or an ovarian cyal. Not infrequently the enlarged non-pregnant uterus was mistaken for the tumor in cases of early abdominal pregnancy the fetal sac was often mistaken for an ovarian cyst. In the differential diagnosis it must be borne in misd that in early abdominal pregnancy the fetal sac is arountifully tender.

Table VI gives the time at which death of the fettes occurred. The large number of fetal deaths in the eighth and ninth months can be accounted for by the fact that the abdominal preguncy was not recognized early enough to permit the birth of a living child. It is our impression that many of the fetures which died would have lived if the

TABLE V.—PRE-OPERATIVE DIAGNOSES IN 136 ABDOMINAL PREGNANCIES

Diagnasia.	-
Abdominal pregnancy	83
Normal pregnancy	27
Pregnancy and fibroid tumor	16
Programcy and overlan cyst	
Placenta preva	r
Abortion	9
	•
Pregnancy and acute appendicitie	5
Pregrancy and intestinal obstruction	4
Preparacy and pelvic infection	5 4 1
Pregnancy and premature separation of placenta	ì
Pregnancy with transverse presentation	•
Pregnancy and towers and contracted neivis	ī
Pregnancy and gall-bladder disease	
Pregnancy and peritonitis	ī
Pregnancy and cervical obstruction	:
Pregnancy and procidentia	:
Privac tumor and peritonitis	:
Metritus	- 1
	I
Ruptured sterus	1
Many diagnoses	1
No diagnosis	7
Wrong dagroom corrected before operation.	11

mothers had been operated upon early enough. Most of the fetal deaths occurred shortly site the beginning of 'labor. A few reports stated that a live bab; was delivered after several days of "labor." but the majority reported that the death of the fetus occurred within forty-eight death of the fetus occurred within forty-eight death.

death of the fetus occurred within for hours after the onset of "labor"

No disappear mentioned

a months

to hours

months

TABLE VIFETAL DEATHS				
٨p		Carre	Age	C
2-3	months	6	Babies underwered.	5
4-5	months months	14	No note of Ille or	
6-7	months	31	death	4
59	months	76	Not recorded	18

TABLE VIL-BABIES BORN ALIVE

8-o mosths

5 days

Not recorded

6-7 mouths	ц			
TABLE	VIII.—EARLY	INTANT	MORIALITY	
Apr	Comm	Apr	Cert	
t bour	7	# days	I.	

In the 86 cases in which the haby was born after six months the infant mortality was 22 per cent, whereas in the 60 cases in which the baby was born alive in the eighth and ninh months, it was about 35 per cent. Therefore the chances of survival of infants born at term of an abdombal pregnancy are not good. We should not encourage a woman with an abdombal pregnancy are not good.

term to secure a live baby

The weights of the babies as recorded in some of the reports are shown in Table XIV

TABLE XI	r —WE	IGHTS OF BABIE	S
Grand Course	Pables	Grazzas	Babic
Less than 750	5	3,500-4,000	15
750-1,500	15	4,000-4,500	7
I 600-1,000	13	4,5∞+	1
2,000-2,500	20	7,260	
2,500-3,000	5	Not recorded	143
1,000-1,500	20		

Deformities were noted many times. Several of the babies had more than one type of deformity Most of the deformities were due to pressure and many were corrected by treatment. Deformities of the head numbered 23, and deformities of the trunk, 7 There were 15 club-feet. One child was reported to be listless and unable to hold up its head at the age of nuneteen months. Another had no mouth, anus or eyes. One had pyloric obstruction. Only 8 were recorded as free from deformity While many of the deformaties were corrected by treatment, the high modence of deformaties should be considered before advising a patient to attempt to await term before submitting to operation

TABLE YV —ADHESIONS OF PLACENTA OR SAC FOUND AT OPERATION IN 236 ABDOMINAL PRECNANCIES

FACGNANCIES			
Placents	Canes	Sec	Cnets
Noadhesions	0	No adhesions	3
Adherent to		Adberent to	
Round Heament	0	Round ligament	I
Gall bladder	I	Gall bladder	
Appendix	5	Appendix	
Pelvic vessels		Pelvic vessels	1
Mesentery	3	Mesentery	6
Liver	8	Liver	0
Bladder	8	Bladder	1
Omentum	16	Omentum	56
Abdominal wall,	22	Abdominal wall.	19
Ovary	18	Overy	10
Small bowel	*3	Small bowel	56
Pelvic peritoneum	40	Pelvic peritoneum	8
Large bowel.	45	Large bowel	51
Fallopian tube	45 18	Fallopian tube	*7
Broad ligament	57	Broad ligament	16
Uteras	67	Uterus	90

The sac was ruptured before operation in 12 cases. The uterus was found to be smaller than an eight weeks' pregnancy in 10 cases and larger in 9 Decidual casts were passed by 5 of the women Blood and laquor in the abdomen were each noted in 8 patients. Pentonius was found 6 times, and the sac was infected 9 times. The child was found free in the peritoneal cavity in 12 cases, and peritoneal shock in 7 In 1 of the former delivery occurred by way of the vaguna. Five of the women were not delivered

TABLE AVI -- PROCEDURES AT OPERATION

TABLE CAL-E	KOCED	ORES AT OTHER	
Procedure	Caraca	Procedure	Cares
Placenta		Sac (continued)	
Removed in tolo		Marsupialized	16
Kemoved tu toto	154	Drains	19
Removed partially	- 8		9
Left	32	No drains	46
Marsupialized	15	Marsupialization fo	r
Drains	59	hemorrhage	20
No drains	76	Transfusions	
No record of dist	xo- '	Blood	7
altion	25	Other	5
Sac	-	Salpingectomy	
Removed in folo	107	Alone	29
Removed partially	10	With hysterectomy	11
Left	24	Hysterectomy	23

TABLE YVII.-POSTOPERATIVE COURSE

	Cases		Cases
Fever	32	Hospitalization	
Ileus	Ĭ,	Not recorded	126
Drainage		11-15 days	20
r- 5 days	8	16-20 days	16
6-10 days	8	21-50 days	38
ri-rs days		31-40 days	7
ró-so days	3	4r-50 days	16
21-30 days	3	51-60 days	9
31-40 days	ĭ	61-70 days	1
41-50 days	1	71-80 days	1
100 days	1	81-00 days	1
14 months	I		

TABLE XVIII.—CAUSES OF DEATH IN 34 (14-3 PER CENT) OF 236 ABDOMINAL PREGNANCIES

Caraset	Cases	Careno	CEME
Shock due to hemorrha	Ec.	Uncontrollable aterine	:
at operation	13	hemorrhage	1
Shock	Ā	ZineuroT	τ
Shock without delivery	· i	Deus	I
Peritonites	8	Pyelonephritis	1
Intestinal obstruction	1	Unknown	3

TABLE XIX —MORTALITY FOLLOWING DIFFER-ENT MANAGEMENTS OF PLACENTA

) maries
Procedure	Cases	70	Per cent
Placenta removed in toto	155	16	10 3
Placenta removed partially	7	I	14 3
Placenta left, marsupialisation	14	3	#1 4
Placenta left, no marsupialization.	30	6	#0 0

The maternal mortality was 14.3 per cent. Twenty nine of the women died after operation and 5 died undelivered. The latter were too sick to be operated upon.

Pentonitis and shock accounted for 25 of the 34 deaths. Shock alone accounted for 17 (50 per cent) In reading the case reports it is surprising to note the number of surgeons who persist in attempting to remove the placents in spite of the

severe hemorrhage. We believe that the mortal itv can be lowered greatly if we desist from inter fering with the placental site when it becomes .

TABLE XX.—COMPLICATIONS FOLLOWING OPER ATION FOR ABDOMINAL PREGNANCY

Complexión Ca Pelvis abaces Repture of vagina Facul fortula Intestinal obstruction.

TABLE XXI.—MISCELLANEOUS INCIDENTS IN THE COURSE OF ABDOMINAL PREGNANCY

Induction of labor
Attempted by bag
Attempted by modication
Attempted by modication
Marked loss of weight
Distation and curettage
Emptied through rectum
Deckhal cast

TABLE EXIL-MATERNAL DEATHS

	₹.		٠,
On operating table	4	After	
First day	3	ra−5 days	
After:	6	g –60 days UndeEvered	

evident that hemorrhage is uncontrollable. Pack ing, with or without massipialization, will give the best results. If the placents is located on the intestines or liver it should be left undisturbed without drainage. Although hemorrhage may occur and prove fixtal as the placents separates or disintegrates, it is far safer to leave the placents.

alone, as this accident is rare. Several obatetricians reported that they at tempted to deliver the fetus through the varing and a reported an attempt to deliver through the rectum in a case in which the presenting part had caused marked rectal distention. Such attempts should be emphatically condemned as in the majority of cases it is impossible to control bleeding Moreover the damage to the maternal soft parts is apt to be severe. After he had delivered the baby a surgeon discovered that he had enucleated the entire uterus with the exception of a small piece of cervix. Marvelously the patient hved and was able to resume her occupation. In I case Hitter of London, opened the posterior cul-de-sac, delivered the baby with Elliott forcers. and nine days later pulled away the placents. The nationt recovered. Nevertheless, it is much safer to open the abdomen for the delivery

If the abdominal pregnancy has escaped diagnesis and the fettus is dead, the fetus may munmify or become calcufied or the fetus and sac may become infected. In several of the cases reviewed all 3 of these changes occurred. Several pathents became pregnant in the uterus and were delivered following abdominal pregnancy. One patient dis-

charged the contents of the fetal sac through the abdomen, another through the rectum, and a third through the urinary bladder. Theoretically the sac may rupture into any viscon, but apparently it ruptures must often through the colon.

The suggestion has been made that operation should be delayed until the death of the fetus, when the blood supply of the placents will be shut off. Of the 37 reviewed cases in which the fetus died during the eighth or ninth month, 12 mothers died following operation and 1 died undelivered. The cause of death was hemorrhage in 6 per tout its in 2 lives in 2 septis following removal of an infected fetal sac in 1 and an unknown conduction in 1. The mortality was about 33 per cent. We would therefore question the advisability of awaiting the death of the fetus before operations concaring.

The mortality statistics given in Table VIX show definite evidence of the advantage of removing the placents is total. The factors requiring further analysis of the statistics are the pre-operative manipulations and treatment. In case a big inserted through the cervir into the peritoneal cavity initiated shock and peritonitis which caused death after removal of the placents is total.

The mortality in the 136 cases analyzed by us was 11 3 per cent. The 10.3 per cent mortality on cases in which the placenta was removed is 100 compares favorably with the mortality of 11.4 per cent in cases treated with manupfalliantion and the mortality of 5 per cent in these treated without manupfalliantion.

The truestion of the optimum time to operate for the safety of the mother and for a viable child may be considered. Since the site of the placenta cannot be determined clinically and since sensortion, rupture of the sac, and injury and infection of the placenta and sac are possible, the conclusion is drawn from expenence and an analysis of the literature that operation is indicated as soon as the diagnosis is made. The delay necessary in obtain a vasble child does not seem justified in the face of the danger to the mother and the high fetal mortality and deformities resulting from this form of pregnancy According to Beck, the best time to operate is the thirty-eighth week, and this period may be awaited if the patient is under observation.

CONCLUSIONS

r The diagnosis of advanced estra-uterine or abdominal preguancy is warranted by a history of pain in the lower abdomen throughout preynancy with or without irregular vagunal bleedier a transverse or high position of the baby absent of uterine contractions impalpable round ligaments and an empty uters.

2 X ray examination of the abdomen with the use of inprodol and exploration of the uterme cavity with sounds may be confirmatory aids.

3 The proper preparation of the patient is

essential to combat harmorrhage

4. Operation is indicated as soon as the diag nous of abdominal pregnancy is made, since many children of such pregnancies die early or have deformities and the life of the mother is jeonard ared less by mamediate than by delayed operation.

5 Removal of the placenta in toto is best when the placental blood supply can be ligated and the site of the placenta is not a vital organ

6 Drainage—preferably abdominal—should be used as packing for hemorrhage or infection only when necessary Also when necessary, marsupi alization should be combined with drainage.

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ABSTRACTS OF CURRENT LITERATURE SURGERY OF THE HEAD AND NECK

HEAD

Peacock, S. C.: Dry Gangrene of the Face with Mummification and Separation en Bloc of the Nose and Adjacent Tissues. Am J. Dir. Child., 1033. 21v. 815.

The author reports in detail a case of dry gan grene of the face in a child eighteen months of age. Eight days eiter a simple mastoid operation in which some sterile pus was evacuated there developed in the plastynt a mass which was assumed to be a retropharyngeal abscess. Four days later the ussues of the upper lip, the nose, and both maxillary regions below the eyes were swollen and bluish black, apparently from a hemorrhage into these soft thesees.

One week after the onset, definite separation of the margins of the necroic tissues was first noted. This slowly progressed, and within four weeks from the beginning of the process the entire nose, together with the contiguous soft parts as well as the denser tissues covering part of the marilla, alonghed out ex starts as a cast, carrying away the left central incisor tooth and the gum surrounding the other in close

The enfoliation caused a shoe-shaped depression measuring about 12 by 7 cm. and containing an oval partitioned cavity measuring 3 by 2 cm. which was overlaid by a dirty-gray exudate and from which the turbinate bones projected. The enfoliated specimen weighed 13 gm. and measured 8.5 by 4 by 1 9 cm.

Pathological examination demonstrated complete infarction of the tissues. There was considerable healing with distortion of the tissues about the mouth.

Five months after the onset, an attempt at plastic repair with Wolfe grafts was made, but after the second operation the child died suddenly apparently from an embolus. Permission for autopsy could not be obtained.

This is a very rare condition. The patient, the youngest on record, had neither a cardiac, syphilitic, nor diabetic condition. The source of the septic infarction was evidently the throat abscess. It may be assumed that teptic embod were discharged from thrombi in the pharyngeal arteries and set up foci where they lodged. The occlusion of the dreuhalon in the area of gangraen may have been due to extension of the thrombotic process through the ansatomotic branches of the right and left pelatine and tonsillar arteries derived from the external maxillary arteries.

Kazanjian V H.: The Surgical Treatment of Mandibular Prognathiam. Internat J Orthodontic Oral Surg & Radiography 1932 xviii.

Orthodontic correction of mandibular prognathism has probably been one of the most disputed problems of orthodontia. Undoubtedly many brilliantly successful results have been obtained by the use of the usual method of regulating the teeth extreme cases of prognathism, however surgical interference seems to be becoming more common. In 1898, Angle stated that in certain cases of pronounced overdevelopment of the mandible no operation dependent upon tooth movement alone can establish proper relations of the teeth or materi ally improve the facial lines. In 1848 Hullihen per formed one of the first operations on an elongated jaw with prognathism. Since then operations for abortening the mandible have been done in increasing numbers by Blair Ballin Babcock, Pichler Willett, and many others. In general, these opera tions have been accomplished by two methods.

The first method consists in removing a section of the body of the mandible on each side thus practically creating a double mandibular fracture, and immobilizing the segments until union is com

plete (Blair, Ballin)

The second method consists in cutting the ramus on each side above the level of the mandibular canal and then pushing the mandible back to the desired position and immobilising it until healing is complete (Fielder Babocck)

The author reports five cases in which double resections were done, and supplements the case histories with photographs. In all of these cases the results were excellent but one of the patients is

still under treatment.

On the study models the location of the operation was determined as about the mandibular first

molar region.

In addition to the preliminary work with models, specific mandibular teeth were removed at least a month before the operation. If this step is left until a later date the healing process will undoubtedly be considerably delayed. The next step was the construction of splints.

An incision about 1 in long was made along the lower borders of the mandble. The bone was exposed and separated from its persosteum on the buccal as well as on the lingual side. The operative exposure was extended to the buccal cavity and sectioning of the bone was done with a Gigli saw in order to have good control of the direction of the saw, a curved scratted homostat bent approximately.

mately to the contour of the mandible, was clamped to the bone and the Gigli saw was introduced distally to the clamp. As one line was cut, the clamp was shifted forward according to the measurements and the excitoing was recented.

As soon as the sectioning had been completed, the hooked wire of the aplint was introduced and the parts were fastened together. In addition, intermantilary clastics were applied to the mantilary and mandibular splints. Whe suturns at the lower border of the mandible was descurded as it seemed nuncressary and undoubtedly caused ignitiation.

During the bailing of the bone, it was necessary to

prove the occlusion of the teeth.

One of the arguments advanced against this type of operation is that sound teeth are sacrificed. Another is that the exposure of the oral cavity invites infection. Judging from the cases operated on and from clinical observations of compound fractures, this possibility need not be considered a constraindication. Justia Beautif Brown, MLD.

KTR

Rados, A.: Traumstic Epithelial Cysts Within the

Rados reviews the literature on traumatic epithelial cysts in the eye and reports a case of scienal cyst in which, at the time of enucleation, the cyst cavity was much larger than the globe

He states that in the repair of any commed wound either accidental or operative, epithelium invades the conneal tissue in the shape of a come. Cysts receil from punching off of the aper of the bone. This may occur from either the anterior or the posterors strates of the corneat. Implication of epithelial tissue with cyst formation may occur also in the iris. As acteral tissue does not constitute a good medium for the growth of epithelium, scienal cysts are less ferrement. Savora & Doras M.D.

Kraissi, C. J., and Stout, A. P.: "Orbital Incisaion" Cysts and Cysto-Adenomata of the Parotid Salivary Glands. Arch Surg. 933, 22vi, 485

Cytic growths occurring in the parotid gland are intend with stratified opticidium, usually of the cylindrical type, and rest on a base of lymphoid tisses. The lymphoid tisses is generally hyperplastic and its growth makes the lining appear papillated or it it is extreme, fills the whole cyrt with epitheliumchal lymphoid nodules. In the latter case the epihelium generally proliferate and forms small actual, and the growth assumes the pattern of a cystic adenoms. Sometimes the cysts are multiple. The epithelium may be chilated.

The cytts have been found in persons ranging in

age from twelve to seventy-four years. They are twice as frequent in men as in women, and are usually situated in the lower pole of the gland.

In the absence of infection the symptoms are usually limited to swelling and occasional twinges of pain. Infection may lead to the formation of persistent sinuses. Removal of the cyst and all its lining will effect a cure.

Many theories have been advanced to explain the origin of these cysts. The suthors believe that the orbital inclusion which gives rise to the orbital salivary gland in some of the estimiyors and appean as a vestigial rudiment in human embryos is a seti-

factory explanation for the cysts.

In man, the orbital inchaion is a vestigial closed tubular structure lined with ectodermal epithelium which lies in contact with the lower portion of the parted gland. It is well known that closed tubular vestiges in other parts of the body may form cysts in adult life. Weishaupt recorded microscopic cysts in adult life. Weishaupt recorded microscopic cysts in adult life. Weishaupt recorded microscopic cysts of statutes of one of the corbital inclusions which also studied. It is logical to assume that the origin of the lympho-cytichical cysts of the matter partidly gland is a dilatation and probligation of the orbital inclusions. Secure X. v. V. II.

FAR

Shambaugh, G. E., Jr.: Programme Designess Occurring in Identical Twins; with a Discussion of the Factor of Heradity in the Etiology of Designess. Arch. Orderwood. 2011, 378, 171.

Shambaugh is of the coinion that heredity is the most important factor in the etfology of profound desiness, whether this condition occurs in children or is the result of otosclerosis in adult life. He states that as no two persons pass through life with identical experiences and as in identical twins the heredltary factor is exactly the same, a study of otosclerosis in identical twins might disclose the rela tive importance of heredity in this condition and perhaps throw some light on other causes. It seems probable that when otosclerosis develors in one of a pair of identical twins and not in the other careful search into the experience of the two persons might bring to light facts which will point to an activating cause of the disease. If, on the other hand, the occurrence of otosclerosis in identical twins is always the same, no matter what the individual experiences of the two may be this fact would indicate that heredity is the all-important factor in the etiology of the condition.

June C. Brawett, M.D.

Rodin, F. H.: Identical Hearing Defect in Identical

Twins. Arth. Observated., 1911, 276, 79.

Rodin reports the cases of two young girls, identical twin sisters, with identical loss of bearing. In both, functional bearing tests showed practically the same loss of hearing for air conduction. Weber's test was not localized and Rinne s test was negative. The audiograms were practically identical.

Because of the insidious onset of the desirest without apparent cause, the negative Rinac tetand the normal condition of the tympanic membranes, a diagnosis of otosclerosis was made

JUNES C. BRANKELL, M.D.

Davenport, C. B., Milles, B. L. and Frink, L. B.: The Genetic Factor in Otosclerosis. I Problem Methods of Study and Results. II Detailed Description of the Various Matings and Their Processy III General. Arch. Otolerysgol 1033 rvil, 135 340 503

The authors state that about 0 2 per cent of the white population of the United States is otosclerotic. In certain fraternities 100 per cent are otosclerotic. It is thus obvious that inheritance is a factor

The petrous portion of the temporal bone, which contains the otic capsule, has a particularly compli-Therefore any discated embryological history turbances or imbalance of the esteogenic function is especially apt to affect the otic capsule.

The beginnings of dealness are first noticed in otosclerotic persons between the ages of four and fifty-five years. Persons in the older age group are commonly but not always with justification, sus pected to have progressive labyrinthine disease.

The original data of this article were obtained in part by house-to-house visits of trained eugenic field workers who gave auditory tests, and in part by cor respondence.

Sixty new families were studied and the distribution of otosclerous in them was analyzed to deter mine the law of inheritance.

Approximately twice as many females as males are affected with otosclerous, but other types of difficulty in hearing occur with equal frequency in both SCEEK.

In body build, otosclerotic persons do not differ aignificantly from non-otosclerotic siblings of the same sex except that, in the relation of pelvic breadth to shoulder breadth and in chest girth otosclerotic females seem to be more slender than their sisters.

When both parents are otosclerotic, nearly all of their daughters are otosclerotic or have difficulty of hearing of some type (one exception in a case from the literature) and about two-thirds of their sons are otosclerotic.

When only the mother is affected the proportion of affected sons and daughters is about the same.

When only the father is affected the daughters are affected about 50 per cent more frequently than the sons.

When neither parent is affected and some of the children are affected the offspring of both sexes are equally affected.

Of ten hypotheses based on these data, the most satisfactory is that otosclerosis develops under ex ternal conditions which favor it whenever the patient has a constitution that combines two dominant fac tors viz. a factor A, which lies in the sex chromosome, and a factor A which lies in one of the autosomes.

According to this hypothesis, the female zygote has the same half chance as the male of getting an \-chromosome from the egg the other half has re ceived an affected \-chromosome from the sperm. Hence, we should expect twice as many sygotes car

rying an affected X-chromosome in the females as in the males. This agrees closely with observation.

It is suggested that the autosomal gene modifies the reaction of the mesenchyme and especially the osteoclasts and osteoblasts. The sex linked gene acts differentially between the sexes, possibly affect

ing calcium metabolism.

The evidence that otosclerotic persons belong to a degenerative class (Bauer and Stein) seems inadequate. However such persons occasionally have de fects in the mesenchyme elsewhere than in the otic capsule which lead to exostoses, brittleness of the bones, and blue sclerotics.

The evidence that otosclerosis labyrinthine diffi culty in hearing, and deafmutism have the same genetic basis is not adequate but overlapping of the conditions may occur JAMES C. BRASWELL, M.D.

Coleman C. C. and Lyerly J G: Ménière a Dia ease Diagnosis and Treatment. Arck. Neural & Psychiat., 1933 XXIX, 592

The authors report ten cases of intracranial section of the eighth nerve for the relief of Mémère s disease. In the majority the operation was done under local ansesthesia. In all, it was followed by prompt recovery The results compare favorably with those following modern operations for the relief of major trigeminal neuralgas. None of the patients suffered from vertigo after the operation. While some of them showed a slight unsteadiness, this was not disabling and decreased in time. Tinnitus de creased in every case.

The authors conclude that intracranial section of the eighth nerve is very successful in relieving the disa. bility of Ménière s disease Gronge R. McAultry M.D.

Smith, A. B : The Development of the Mastoid Air Cells. J Laryngel & Old 1933 xivili, 225

From a histological examination of twenty tem poral bones of children ranging in age from birth to ten and a half years the author concludes that the mastoid air cells are formed by (1) resorption of the bony walls of the mastoid antrum by osteoclasts. (2) penetration of the subepithelial connective tissue into the spaces hollowed out by these multinucleated cells (1) replacement of the bone marrow by this tissue, (4) degeneration and absorption of the central part of the connective tissue followed by its condensation as a thin layer on the surface of the bone, and (5) proliferation of the epithelium which follows the regression of the connective tissue and remains in contact with it. He believes that the maxillary air cavity develops in a similar manner

GRORGE R. McAntary M.D.

NOSES AND SINUSES

Schall, LeR. A.: The Histology and Chronic In flammation of the Nasal Mucous Membrane. Ann Otol., Rhinol & Laryngol., 1933 ziil, 15

Mucous membrane includes a surface epithelium. a basement membrane and a tunica propria, and sometimes. In addition, a muscle onet and submurous. The cell type may be of any of the coithelial varieties, and the arrangement may be either

stratified or pseudo-stratified.

Of the cellular elements, the lymphocytes predominate. These may be scattered throughout the tierne or collected in one mass to form a lymph node. The slands were from the simple straight tubule lined with poblet cells to the tubo-alveolar type. Blood is specified by woods which enter deep in the strome. The venous return occurs by way of surer ficial blood spaces which lead to a deeper venous plevns sometimes forming a vernous danges. Such is the general picture of a normal mucous membrane.

The name mucrose shows variations according to site. In the infant the septum shows the pseudostratified cillated variety. In the adult, this is changed to the stratified squamous variety with an abundance of mucous and scrous glands and, in the region of the tubercle large blood lakes. The epithe lium of the olfactory portion is of the stratified variety the surface cells being both sustentacular and

diactory

The covering of the turbinates varies a great deal in thickness. The culthelium is freemently of the low cuboidal type. There is an abundance of glands, especially over the middle turbinate, and the periosteum is firmly adherent. The inferior turbinate shows prunounced blood channels.

In the maxillary antrom the mocosa is thin and delicate and contains unmerous goblet cells. Glands are few they are most numerous in the region of the ostenm. The ethmoldal mucoss shows similar char acteristics, but its periosteum is more adherent. The mucose of the sphenoid and frontal sinuses is also

Pathologically chronic inflammations of the name mucosa are classified as cedematous, infiltrative,

fibroid, cystic, and degenerative.

In the ordenatous type the swelling is most marked in the superficial portion of the strems, the vessel walls are thickened, and the glands are di-

In the infiltrative type there is a predominance of lymphocytes. The infiltration is particularly marked about the glands and sometimes may be so dense as to suggest lymph podules. The stands are exceedingly numerous, and the blood vessels are thickened.

In fibrotic inflammation the chief characteristic is fibrosis. There is a decrease in the cellular elements with a marked increase in the fibrous tissue. In the cystic mucous membrane there are multi-

ple small cysts. True degenerative changes in the mucosa are tare, the epithelial cells not being easily destroyed.

Nasal polypi are considered overgrowths of theme normal to the region in which they occur and show changes characteristic of mucosa in general. Ac cordinaly there are ordenatous, fibrous, and cystic types, and combinations of these types.

The turbinate mucom is subject to the same changes as mucosa elsewhere. Hypertrophy may be physiological as well as pathological IONN F DEEM M.D.

Hilding, A.: Experimental Surgery of the Nose and movel of the Intersinus Septum and of Strips of Mucross Membrana from the Frontel Store of the Dos. Acre. Otslervassi nett. rvfl. err

Twenty-four strips of mucous membrane were removed from one or both frontal sinuses of filters does and the denuded area was observed at mbsemient operations after periods of time varying from one day to thirty-six weeks. Each demided area was observed from one to five times after the denndation.

All of the operations were done under ether annesthesis and with an esentic technique. The other was administered through a trached tube. The frontal bone was laid bare over both frontal sinuses through an incision in the median line, and the bony roofs of both sinuses, including the comsponding mucous membrane, were removed at the first operation by means of the chied, mallet, and rongeur The strips of mucous membrane to be re-moved were outlined by an incision made with a small, sharp scalpel and then removed by means of a small ethmoid curette or a bit of game held in the leve of a small harmostat. In all but five of the anmals the removal of the strips resulted in high, sharp scars. In general, the wider the strip removed the higher and thicker was the resulting scar

The author believes that the following conclusions may be drawn from these experiments, at least so far as the normal frontal sinns of the dog is concerned

I High ridges and disphraems of scar thank follow the removal of strips of mucous membrane on concave surfaces.

2. These ridges and disphragms interfere with normal drainage, and if they are so situated that the mucus cannot readily slide around them they came

the mucus to collect in pools. 3 When a complete ring of mucous membrane is

removed from the interior of the sinus in any plane, with division of the remaining mucous membrane into halves, the circular scar that forms in healing may become a complete disphragm of connective tissue dividing the sinus into two cavities. Under such circumstances one of the cavities subsequently becomes filled with mucus. 4. Partitions or septa between sinuses can be

removed and the resulting opening can be kept par ent if the edges of the mucous membrane on both sides of the partition are made to meet and no strip of bone is left bare. 5. If at the end of the operation a bare strip of

bone circles the opening, healing usually forms a disphragm which as a rule closes the operative opening and makes the partition or septum once more 6. The orthum can be closed by removing a cir

cular strip of mucous membrane from around it.

Mosher H. P and Judd D K.: An Analysis of Seren Cases of Osteomyelitis of the Frontal Bone Complicating Frontal Sinusitis. Larys 1988 1988 1933, IIII, 153

The authors state that in esteomyelitis complicating infection of the frontal sinus cedema of the skin and soft tissues of the forehead is the first sign of infection of the medulla of the bone and pernosteum. The infection of the myeloid tissue of the bone and of the periosteum occur at the same time and advance together. The exclema of the skin of the forehead is a practical guide to the extent of bone to be removed. This has been proved by the microscopic examination of surgically removed bone

At operation two large triangular skin flaps give the best exposure and the best drainage. The bone removal should be begun beyond the orderna, generally at or near the hairline and should be carried downward from normal bone to diseased home.

Roentgen-ray examination does not give positive findings until necrosis occurs. Therefore it is not positive until from seven to ten days after the cedema has shown infection of the medulla, when the infection of the medulla of the bone has extended from 1 to 2 in. beyond the necrotic area. Radical operation—multiple radical operations if necessary—offers the best chance of success.

JAMES C. BRASWELL, M D

MOUTH

Lund, C. C. and Holton H M Carcinoma of the Buccal Mucosa. End Results 1918 1926 New England J Med 1933 cevill, 775

The authors review the end-results in 1 126 cases of cardonoms of the mouth which were treated at the Collis P Huntington Memorial Hospital, Boston, in the period from 1918 to 1926 inclusive. They have classified the cases into 2 groups a small gland group and a "large" gland group The former included all cases in which the glands of the neck were not palpable or did not exceed 1 cm. in diameter and the latter included all others. The authors regard as cured the cases in which the patient was free from local or distant recurrence or metastases five years after the treatment was discontin-

Of 155 primary cases with small glands which were treated by surgery a cure was obtained in 37 (a4 per cent) whereas of 3,1 similar cases which were treated with radium, a cure was obtained in only 13 (a per cent). However in the period from 1918 to 1926 the Irradiation treatments were inadequate according to our present conceptions. In the cases in which the original leation did not exceed 1 cm. In diameter the incidence of cure from the use of radium alone was 39 per cent, but in the cases of larger lesions it was much lower. Of the cases with small primary lesions which were treated by surgery alone a cure was obtained in 50 per cent. Of 3

cases of small glands which were treated by surgery combined with irradiation a cure was obtained in 4 (17 per cent)

In the large gland group there were 304 cases. In the cases which were treated by surgery alone or by combined surgery and irradiation, no cures were obtained, and of 281 cases treated by irradiation alone, a cure was obtained in only 1 In cases of recurrent carcinoma following surgery or irradiation or both, the incidence of cure was less than 3 per

The authors statistics with regard to radical versus local surgery show no great weight of ovidence that the radical operation cures many cases that would not have been cured by a well performed local operation. WILLIAM G HASM, M.D.

Fischel, E.: The Surgical Treatment of Metastases to Cerrical Lymph Nodes from Intra-Oral Can cer Am J Rossignal 1933 xxix, 237

Fischel states that any treatment of metastatic lymph nodes must aim at local obliteration of the food of the disease. This can be accomplished by surgery external irradiation, or interactual irradiation. The use of external irradiation is limited as metastases from squamous-cell cancer of the mouth are very radioresistant. The resulting fibrosis is of doubtful value. Intersitical irradiation is a more direct attack, but because of the complicated anatomy of the neck, destruction of all of the cells of metastases must be regarded as accidental.

While even the most radical surgery cannot all ways remove all of the metastases of an intra-oral cancer the paths of spread are well known and can be so thoroughly excised that recurrences in the operative field can be rendered very rare. The neck can be thoroughly cleared of lymph vessels and glands without greatly handicapping the patient. The radical operation gives the best results before there is demonstrable (i. e. microscopic)

cancer in the lymph glands.

In the radical operation it is necessary to remove considerable tissue beyond the involved area and to begin the excision at the periphery of tissue to be excised and end it at the point of maximum involvement. There are only a inviolate structures in the triangles of the neck—the 2 common carotid arteries and the 2 vagus nerves. Both jugular veins may be removed at different stages and even 1 vagus nerve may be severed. The degree of post operative shock is governed by the time consumed and the amount of blood lost in the operation. The most feared complication is postoperative hemor rhage. The best preventive of this complication is closure with ample drainage. Contra indications to surgery are (1) a poor general condition, (2) evidence of metastases below the clavide, (3) fixation of the metastatic mass to the spinal column, and (4) extensive skin invasion.

Of 190 cases treated in the Barnard Free Skin and Cancer Hospital, St. Louis, a five-year cure was obtained in 81 per cent of those without

demonstrable involvement of glands and in ac percent of those with demonstrable involvement of stands. Exclusive of cases of cancer of the line nve-year cure was obtained in 6s per cent of cases in which the stands showed simple hyperplasis and in as per cent of those in which the excised sland showed metastasis. In so private cases the corresponding incidence of five year cure was too per cent and 17 per cent.

In the clinic cases the operative mortality was at per cent, but 16 of the 10 nationts who died had an intra-oral operation combined with neck dissection. In se clinic cases and as private cases in which the neck dissection was postponed until the relmany lexion had bealed the operative mortality was cr and a6 per cent respectively

Craymer C Reen M.D.

Giffies, Sir H., and Kilner T P : Harelin: Opera tions for the Correction of Secondary Deformi ties. Lencel, 1012 ccxxill. 1000.

The original deformities of the nose and lin are often so complex that it is unreasonable to expect the primary operation, undertaken as it usually is at a very early age to accomplish more than aseptic closure with simple adjustment. This produces a sound hads for future work of a more cosmetic netore

The most common contour deformity seen in old cases of harelin and cleft palate is produced by flat ness of the lin and depression of the nose. The flat Ho is most marked when the premaxilla has been

removed.

The next deformity is said to be dependent on the following factors (1) backward displacement of the maxilla regulting from the scar times wall which follows successful closure of the palatal deft (a) definite under-development of the normal amount of hone in the parts of the maxilla which border on the pyriform opening (3) the backward pressure of a tight lip and (4) definite failure in the forward growth of the name septum. As the result of back ward displacement of the maxille the upper teeth usually come to lie well inside those of the lower law Mastication is then inefficient and the lower lin is rendered abnormally prominent.

The operative procedure that will be found most widely applicable to this type of lip and none has been called the buccal inlay " It consists in the in troduction of a Thiersch graft on a mould designed to free the lip and nose from the underlying retroposed maxille. Freeing and loosening of the lin in this way allows the wearing of an upper denture sufficiently prominent to produce a normal contour and carrying, well in advance of the natural post tion, artificial teeth which articulate normally with the lower teeth.

The results of this simple procedure are said to be remarkable. The whole character of the face is lm proved and final successful operations on the lip and nose are rendered possible and are more easily ac complished.

In cases of double harelin the so-called problem is often placed so far down the lin that the labels of the nose is drawed down with it.

The murous membrane of the preparille baries felled to unite with the nurcous membrane of the advancing lateral processes, forms a perodo-ver million harder for the aralablum, and this has tened ed many a surveyon to utilize it in the construction of the new lip marrin, to the permanent detriment of the patient

The variability in the size of the prolabium appears to lend weight to the opinion that there is in all cases of cleft lip and palate a varying degree of non-development of tissue rather than merely a nonunion of normally developed parts. From the point of view of a plastic operation on the lin it is imperative in all cases of down-drawn nose the to take the prolabial akin out of the lip and auture it sufficiently high on the free border of the septum to allow the tip of the nose to come forward and upward into normal position

A very pleasing non-survical type of lin may be obtained by performing what the author has called the Cupid's bow" operation. In principle this cussists in discarding altogether the existing skinvermilion runction and making a new curved lip border at a higher level. The result is an attractive short lip with full mucous membrane and at least a

suggestion of a Conid's how

In a few cases there has been so much surrical and developmental loss of tissue that nothing short of the scafting of a whole thickness fan from the lower lip (Abbe s operation) is likely to result in any strik ing improvement.

Procedures for the correction of the nasal deformities are described and shown by illustrations.

TANKS BARRETT BROWN, M.D. Levi, D : An Advance in the Survey of Claft Palets.

Lancel 033, coxxiv ere The author says that Langenbeck's operation

described in 1861 does not give uniformly good results but is still used by many English surgeons. The functional results are often poor and the palate frequently breaks down. Year's operation constitutes an improvement in cleft palate surgery. It includes suture of the nasal mucoss, of the muscles of the soft palate, and of the buccal mucosa. The palate is repaired when the nationt is about one year old. About two months before the operation the tonsils and adenoids are removed.

Operation for cleft soft palets Before any mixtee are introduced the edges of the soft palate and uvula are incised rather than pared so that all tissues are conserved. The muncular elements are then detached from the hard palate. In suturing the name mucosa the author uses ophthalmic alk worm gut and a Reverdin needle. The sutures are thed on the name side, with care to avoid lifting the soft palate. The nasal entures are carried back to the base of the uvula. The uvula is then closed on the anterior surface.

The most important step in the operation is the The palatal muscles are en muscular suture. veloped with catgut sutures with the use of a Rever din needle which is passed between these muscles and the nasal mucosa. Only the musculature of the palate is included. These sutures are pulled The mucosal and buccal sutures tight and tied.

are then placed.

Operation for delts of the hard and soft palates This operation is carried out in a manner similar to that for cleft of the soft palate alone. incisions in the edges of the soft palate are carried up to the cleft in the hard palate. Before the edges of the mucosa are incised the mucosa is separated from the hard palate with the crochet rugine. The mucosa is detached from both nasal and buccal surfaces. When the edges of the cleft have been incased and the nasal mucosa has been elevated the cut edges of the mucosa overlap the edge of the bone by 2 or 3 mm. The sutures in the nasal mucosa, usually four are placed so that the ends can be left long and used later to close the palatal flaps.

Next an incision is made around the alveolar margin near the teeth from a point just posterior to the alveolar process of the superior maxilla to a point external to the posterior palatine foremen on both sides. The flap is raised with care not to injure the blood supply from the palatine artery Bleeding is controlled by pressure. The flaps are placed in position by the four untied sutures which have been passed through the nasal mucosa and all are placed before any of the sutures are tied. The palatal flaps are then sutured in the midline. A small gap is of no importance

So far the author's patients have been so young that it has been impossible to judge the functional results of the procedure. CLARENCE C. REED M D

PHARTEX

Alcalay B: Histological Studies in Cases of Harmorrhage Following Tonsillectomy (Exa mens histologiques dans les hémorragies consécutives à l'ablation des amygdales) Otolarvarol #er., 1932 iv 120

Among the general factors predisposing to ham orrhage after tonsillectomy are hemophilia, leuke mia hemorrhagic diathesis, menstruation, and ar terioscierosis. By some surgeons particular im portance has been attached also to an anomalous course of the blood vessels supplying the tonsil. The most common sites of hamorrhage are the

superior pole and the hibra.

There has been very little study of the relation of different pathological conditions of the tonsils to the occurrence of harmorrhage after tonsillectomy It has been claimed and disputed that the tendency of the tonsillar artery to bleed after removal of the tonsils is increased when the artery runs through fibrous tissue. It has been observed that bleeding is more common after intracapsular tonsillectomy than after extracapsular tonsillectomy

The author reports a histopathological study of the tonsils in seven cases in which tonsillectomy was followed by quite severe hamorrhage of these cases there was a history of repeated throat infection. The significant constant finding of histological examination was a hyaline degeneration of the walls of the blood vessels running through the chronically inflamed tissues. In most of the cases the hemorrhage resulted from fallure of the cut vessels to contract sufficiently not because they were surrounded by scar tissue but because their own walls had undergone degenerative changes from the insults of the chronic inflammation. This find ing explains why extracapsular tonsillectomy is less ant to be followed by bleeding than intracapsular ton afflectomy in cases of chronic inflammation, and suggests that postoperative hemorrhage might be prevented by the excision of all cicatricial tustues about the tonsils. GAYLORD S BATES M D

Sawers W C. and Burrett F R : A Bacteriological Investigation of a Series of Tonsils Removed by Operation Med J Australia 1933 i, 304

The authors made a bacteriological examination of the surfaces and crypts of diseased tonsils in chil dren. One hundred and seventy pairs of tonsils were examined. The usual bacteria were found, but in 70 per cent hemolytic atreptococci predominated on the surface and in the crypts. No acid fast hacilli were discovered. The authors state that the bacterial flora on the surface of the tonsil does not appear to be a reliable index of the flora in the crypts GEORGE R. McAULIFF M D

NECK

Rowe, A W Endocrine Studies XXXV The Association of Hepatic Dysfunction with Thyroid Failure. Endocrinology 1933 zvii, 1

Rowe finds that 22.44 per cent of all patients with thyrold failure have a hepatic complication whereas only 10.01 per cent of those with other endocrine or non-endocrine disturbances have such a complica As a combination of thyroid and hepatic failure might suggest some other morbid condition he analyzed data from 100 cases of thyrold and liver disturbances and 100 cases of uncomplicated liver disturbances.

He found no algolficant difference in the incidence of focal infection in the a groups. The incidence of cancer and golter in the family history was con siderably higher in the cases of thyroid and liver disturbances than in those of uncomplicated liver disturbances. Of the suggestive chief complaints, vertigo and fatigue were more frequent in the former and headache and abdominal pain were more frequent in the latter Menatrual irregularities were more frequent in the cases of thyroid and liver disturbances. In these cases also difficulties in con ception and delivery were somewhat greater than in cases of uncomplicated liver disturbances, but significantly less than in cases of uncomplicated

thyroid disturbances. Of the patients with thyroid and liver disturbances, twice as many were over weight as of those with uncomplicated liver disturbance. Of the latter, a little over half were within the normal weight limits. About one-quarter of both groups were underweight. Balf of the patients with thyroid and liver disturbances and three-quarters of those with uncomplicated liver disturbances had alburdiouris. The incidence of gipconairs was viver as high in the cases of uncom pleated liver disturbances as in those of thyroid and liver disturbances as in those of thyroid and liver disturbances as in those of thyroid.

Chemical examination of the blood showed notiing important except that the uric acid was alightly above the normal in both groups. The red cell count and hemoglobin showed a mild secondary anemia in both groups. A dightly higher leucocyte count in the cases of uncomplicated liver dusturiance was probably due to the commonly associated mild cholecystitis. Eosioophilis is definitely a sign of liver disturbance as it was not found in cases of uncomplicated thyroid fallure. All of the patients with thyroid disturbances and one quarter of those with liver disturbances aboved a depressed basin metabolic rate. The blood persure was on the same level in both groups. Fewer than 10 per cent of the patients in each group showed hypertension, but Rowe suggests that the mechanism of the blood pressure level was different in the 2 groups. He believes that the depression of the pulse, respiratory rate, and temperature in the cases of thyroid and liver disturbances was due to the thyroid component. The galactors ext showed a considerable depression in both groups, but this was more striking in the those of through and liver disturbances was described by the considerable therefore the control and liver disturbances than in those of through and liver disturbances than in

In conclusion Rowe says that as combined thy roid and liver dysfunction frequently simulates pituitary or sectodary ovarian failure, investigation of liver function will furnish important evidence in the differentiation of the various endocrhopatities.

F. S. MORTER, M.D.

F. S. MORTER, M.D.

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS CRANIAL NERVES

Gurdjian, E. S.: Studies on Acute Cranial and Intracranial Injuries. Ann. Surg 1933 xcvil, 327

From an analysis of the literature and of his cases Gurdrian has compiled the following classification of head injuries.

I Fracture of the skull, simple,

- Fracture of the skull, simple, depressed.
 Fracture of the skull, compound

4. Intracranial hemorrhage.

- A. Extradural due to rupture of meningeal vessels, sinuses and diploc.
- B Intradural due to pial tears, bruises, or laceration of nervous tissue,
 - (r) Subarachnold.
 - a. Generalized.
 b Localized.
 - (2) Intraparenchymatous.
 - Petechial.
 - b Massive.
- 5 Bruising or laceration of nervous tissue, with or without fracture of the skull.
 - 6 Increased intracranial pressure.
 - Caused by any of the above.
 - B With no demonstrable pathological lesions in the brain.
 - 7 Complications.
 - A. Meningitis.
 - B Meningo-encephalitis. C. Brain abscess.
 - D Pneumocephalus.

Among 718 cases of head injury brought to the Detroit Receiving Hospital, there were 475 cases of skull fracture proved by autopsy, X ray examina-tion, and inspection. The mortality in the entire senes was about 10 per cent and in those with demonstrated fractures about 25 per cent. Exten sive lacerations of the brain associated severe in juries elsewhere in the body fractures in the posterior fossa, and injuries with associated nasal and aural bleeding were among the factors that increased the mortality

Convulsions occurred in o per cent of the cases. In half there were jacksonian spells. In a smaller number there were generalized epileptiform attacks. Five patients had attacks of the decerebrate rigidity type. All 5 died. Convulsions do not necessarily indicate operative treatment. In the absence of corroborative findings of hemorrhage the author treats cases of convulsions conservatively or by lumbar puncture Many patients with jacksonian apells recover without operation. Catatonic states in cases of head injury suggest a left cerebral lesson and in the majority there is associated aphasis. It

is emphasized that alternating oculomotor paralysis may be caused by middle meningeal hemorrhage rather than a lealon in the mid brain involving the third nerve and the pyramidal tract on a given side. Such a picture may obtain in cases of middle meningeal harmorrhage because of pressure by the clot against the third nerve near the cavernous sinus and paralysis of the opposite half of the body by pressure against the motor cortex on the same side

When one follows the fatal cases to the autopsy room one is impressed by the fact that in a great number the present-day method of approach whether operative or conservative is of little avail. In approximately 50 per cent of the cases reviewed by the author the patient was confined to bed the head elevated and an icebag applied. The fluid intake was restricted to approximately 1 000 c.cm. per day and concentrated solutions of magnesium sulphate were given by rectum over a period of three days All of the patients were confined to the hospital for at least twelve days. Forty per cent were given treatment to reduce the intracranial pressure i.e. the intravenous administration of a 50 per cent glucose solution and spinal drainage. About 7 per cent were subjected to operative measures.

Lumbar puncture is an important diagnostic and therapeutic procedure but its indiscriminate use is to be condemned. It is never done by the author within from six to eight hours after the injury except for diagnostic purposes. Even then it is done very carefully and always with the use of a spinal man ometer. In a certain number of cases its therapeutic use is followed by truly marvellous results but the author has more faith in it for its immediate effect than as a preventive of late undesirable sequela-

Flity-one of the cases reviewed were operated upon with an operative mortality of about 37 5 per cent. Compound fractures are considered emergency conditions and are operated upon as soon as the general condition permits. Asymptomatic simple depressions are not considered emergencies. They are treated conservatively and a certain number are not operated upon at all. Operation is done only af ter due consideration of all factors. Extradural hemorrhages are usually due to hemorrhage from the middle meningeal artery but some of them come from injuries to the lateral sinus. Commonly 1 or 2 trephine openings are made to verify the presence of the clot and then a flap operation is carried out. The results are very gratifying. In cases of subdural harmorrhage, on the other hand, the results are usually poor whether operative treatment is given or not. Subtemporal decompression is the procedure usually practiced. Gurdilan concludes with regard to operative procedures that the best policy is 'con servative watchfulness. JOHN W. EFFOR, M.D.

Berriers, A. V., and Medoc, J : Two Come of the Renderate of Chinamai Turnor (Sobre dos casos de einderma ordermation turneral). Res et-acreeoficiand a de cirue servel 1011 vill. 10.

The chiesmal syndrome conditis essentially of the combination of bitemporal hemisponess with simple ontic atmosps and persons and endocrine disturbances. The authors report a case of intrasellar tumor and a case of suprasellar tumor to show the

differences between them

In the first case the tumor was a ritultary endothelioms. In the second, it was a papilliferous cyst. originating from Rathke s pouch and invading the third ventricle, the hypophysis remaining normal. Both of the nationts presented a typical chiasmal syndrome with identical ocular symptoms, but con trasting neurohypophysesi symptoms. presented acromeraly the second, adinosprenital dystrophy and the infundibular syndrome first patient was operated upon successfully but the second died of postoperative shock. The wellillustrated case reports include the complete clinical and roenteenological findings, the operative technime, and the pathological character of the tumors In the report of the second case the findings of

examination of the brain are also given. The authors describe the anatomical relationships of intrasellar and suprasellar tumors. While the location of the tumor is usually not difficult to determine, the diagnosis of the nature of the tumor may be very complex, especially in cases of the beterogeneous group of suprasellar tumors. The anthors give the classification and main diagpostic features of the latter. They then discuss the neurological, endocrine, and roentgenological features. Hypogenital adiposity is observed in assoclation with both intrasellar and apprasellar tumors. The authors, second case supports the view that the causal lesion lies in the infundibulum and tuber cinereum. The roenteenoscopic signs are not in themselves decisive they must be evaluated in connection with the clinical data. In certain cases roentemorraphy gives information as to the nature of the tumor as areas of calcification are character

latic particularly of crancopharynecomata. With regard to the evaluation of the ocular disturbances in the differential diagnosis, the authors discuss the characteristics and evolution of hemianopala, the relation of the site of the initial defect in the field to the direction of the pressure exerted by the tumor the dependence of the latter on the intracellar or suprasellar origin of the growth the onhthalmoscoric appearances and oculomotor disturbances and the human and experimental ana tomical evidence on which their conclusions are hased. The earliest visual defect is in color perception. The pensistence of blanch of vision in the extreme temporal part of the field after the estab-Hahment of hemianopsia is characteristic especially of tumors arising above the middle of the chiasm. The beginning of the defect in one or the other temporal quadrant has been recognized as a dif

ferential sign between compression of the lower surface of the chiasm, such as occurs in cases of pitnitary tumor and compression of the name surface such as occurs in cases of surpresellar topoc In cases of intrasellar growths the defect almost always begins in the superior external quadrant whereas in those of surresellar turnor it almost always begins in the inferior external amadeant. The finctivations of the hemispowers and the localization of cectain defects are not in accord with the notal hypothesis of direct compression of the chisen by the tumor They suggest rather that the pressure is exerted, not directly on the nerve fibers, but on the vessels, producing sones of ischemia

Ontic atrophy and oculomotor disturbances are late symptoms. A vellowish wary discoloration appearing as stripes on a normal papilla is described as peculiar to the chiasmal syndrome. Later a characteristic ordens appears. Both of the anthors cases showed Wernicke's hemianonsic reaction of the pupil with blindness in one eye and temporal hemianonsis in the other Neither case presented the paradorial apiscoria described by Behr Is both the puril of the blind eve was the larger

M. F. Moste, M.D.

Schwenkenberg, A. J.: Spontaneous Subgrachnold Hamorrhade, Teres State J. M., 1011 xxvil. \$14

The occurrence of hemorrhage into the subarachnold space is now recognized more frequently than formerly. It is probable that many cases bave been diagnosed as hemorrhade encephalitis or meningitis. In some of the cases in which the cause cannot be determined the bleeding may be due to small ancurisms of the cerebral years resulting from a congenital defect or cerebral arterioscletosis Occasionally syphilis may be a factor In some cases venous anomalles have been found.

With the exception of the occasional complaint of headache over an indefinite period the history is usually of little significance. In some of the cases reported the patient had suffered from migraine headaches for years before the hemorrhage One of the author a patients had attacks of petit

mal for several years. The symptoms and signs are those of a sudden increase of the intracranial pressure with meningeal irritation. As a rule the onset of the hemorrhage is accompanied by sudden severe beadache but occasionally it causes loss of consciousness or come. The headache is frontal or occinital and often requires large doses of mornhine for relief. The pa tlent complains of pain behind the eyes with a feeling that the eyes are going to "pop out. There is extreme sensitiveness to light, sound, and touck The neurological signs are those of meningral ir ritation nuchal rigidity opisthotonos, Kernis sign, a bilateral Babinski reaction, and an increase in the deep reflexes. Occasionally there is papillordems with retinal hemorrhage. In some cases there are localized signs such as upper motor seuron or cranial nerve paralysis. The cranial nerves at

fected most often are the third and sixth. Occasionally jacksonian convulsions occur, and quite frequently there are generalized convulsions.

The most constant sign is the appearance of blood in the spinal fluid. In a few days the color changes to brown, and then to yellow. After from ten to fourteen days the spinal fluid is again clear and colorless. The intracantal pressure is increased from so to 40 mm. Hg. The temperature may fise slightly or to rud degrees F. There is a definite increase in the white blood cells with a relative lemocytosis.

The treatment requires complete rest, the application of an ice bag to the head, and repeated spinal ponctures. The latter reduce the pressure and remove part of the blood pigment which irritates the meninges and is responsible for more discomfort than the increased intercranial pressure.

Slight exertion may cause another hamorrhage with a renewed increase in the intracranial pressure and recurrence of blood in the spinal fluid. In fatal cases death seems to be due to profuse hamorrhages.

The author reports fourteen cases.
E. S. Platt. M.D.

Wilkins H., and Sachs E.: Variations in Skin Amesthesia Following Subtotal Resection of the Fosterior Root, with a Report of Twenty Six Cases Illustrating a Series of Variations. Arch. News & Psychial., 1933 xxls, 19.

Wilkins and Sachs discuss the sensory losses subsequent to subtotal resection of the posterior root of the trigeminal nerve and report twenty-six cases in detail. They believe that these cases show that a fiber or fibers may be missed in subtotal section even when the greatest care is used that there is sometimes considerable interlacing of the fibers and that adjacent nerve fibers do not always supply adjacent areas of skin. In the great majority of the cases they discovered no distinct line of cleavage between the ophthalmic fibers and fibers of other groups, and therefore found it necessary to estimate which portion of the root contained the ophthalmic fibers. In their experience, separating and leaving only the ophthalmic portion of the posterior root has not been so uniformly successful as a perusal of the literature suggests it should be.

Although in some of their cases fibers were left in areas in which pain was present, the fibers to the area in which the tinger zone cristed were always cut. To date, a recurrence has developed in only one of their cases, and in this instance there was some doubt as to the disposit. The authors nursiglia is referred pain. Haze HATE M.D.

Conte E.: A Case of Tumor of the Acoustic Nerve (Intorno ad un caso di tumore del nervo acustico) Radial med., 1933 EX, 121

Tumors of the cerebellopontine angle cause direct and indirect roentgenological manifestations. The direct manifestations are caused by the pressure

of the growing neoplasm on the underlying bone In tumors of the acoustic nerve the most important durent manifestation is Henschens sign dilatation of the internal acoustic meatus. This indicates the site of the tumor exactly. The chief indirect signs, which are due to internal hydrocephalus are erosion and atrophy of the quadrilateral plate, depending and enlargement of the sella turcae, separation of the sutures and digital impressions. The earliest and most constant signs are erosion and atrophy of the quadrilateral plate

The author reports a case of tumor of the left acoustic nerve in which the neoplasm was verified at autopsy X ray studies in the classical positions (laterolateral, transorbital fronto-occipital, frontosuboccipital, and mentovertex) showed definite en largement of the left acoustic meatus erosion of the apex of the left pyramid slight enlargement of the right acoustic meatus, and slight erosion of the right pyramid besides indirect signs of increased intracranial pressure. Studies in the oblique position of Stenvers showed erosion of the apices of both pyramids. The erosion on the right side appeared definitely greater. At autopsy it was found that the erozion of the right pyramidal apex was on the anterior surface and caused by pressure from the internal carotid artery and the superior petrosal sinus. DAVID JOHN IMPARTATO M D

SPINAL CORD AND ITS COVERINGS

Douglas-Wilson H Miller S., and Watson G W : Spontaneous Subarschnold Hamorrhage of Intraspinal Origin Brit II J 1033 1, 554.

Spontaneous subarachnoid hemorrhage of intra spinal origin is rare. It is distinguished from the more common spontaneous subarachnoid hemor rhage of cerebral origin by (1) the absence of cerebral and cranial nerve signs (2) marked ir ritability and hyperasthesia of the spinal roots and nerves (3) rigidity of the spine with a mild degree of opisthotonos and (4) almost instantaneous relief of the symptoms on lumbar puncture

DAVID JOHN IMPARTATO M.D.

Kischner M and Davison, C.: Myelitic and Myelopathic Lesions. III Arteriosclerotic and Arteritic Myelopathy Arch Neurol & Psychiat 1933 xxix, 701

The authors report eight cases of myelopathic lesions accordiny to circulatory interference within the cord from partial or complete occlusion of the spinal or meningeal vessels. In two of the cases the condition was due to arterioselerosis and in six to arteritis. Syphilis was a factor in five of the six cases of arteritis and tuberculosis was a factor in one. The symptoms varied. The diagnosis may be aided by the fact that soon after the onset there are symptoms indicative of involvement of other components of the neurans, as in toxic myelopathy Also of diagnostic value is the finding of clinical, scrobogical or cytological evidences of syphilis.

In the atherosclerotic group, historiathological examination showed marked destruction of the name cells, myelin sheaths, and axis cylinders accomrapled by dense sliggs. In the arteritic eronn the changes were similar except that the elial response WILL DOOR Roster Zorinmer M.D.

Cornil I. and Mosinder H t Intraminal An elometa and Talensiactassa (Sar les ansiones et télanelectasies intrarachidiens) Are deset beth. rota Iz occ.

From a study of ros cases of intragrinel anelomate and telanelectures the authors draw the following conclusions

Venous, arterial, and capillary telanolectases may have a hereditary (chromosomial) or acquired origin. In the latter case the cause is rarely of a mechanical nature (compression) since as a rule. the condition seems to have an inflammatory origin Post-inflammatory telanglectasis is common in other parts of the body, especially the skin (telan-electric cleatrices) and is particularly freement in the region of the central nervous system. Accordforly some local thrue factors which still remain charge must play a part in its occurrence. Without doubt, these factors are similar to those involved in syringomyells, viz. panelty of sustaining connective times and interference with the drainage of extraorescular and intravascular fulds

. In a certain number of cases anglome grafts. itself on the inflammatory telanglectasis. In fact It is frequently accompanied by a veritable hyper plastic capillary process (angiosis) In some cases the anglosis probably becomes changed into a hyperplastic vascular tomor (anxioma) by a mechabolem analogous to that involved in the pathogeneris of certain reactive hyperplantic adenomata (adenomate of the cirrhotic liver) At any rate, the presence of evident signs of infiguration in certain anglomate of the nervous system, and especially in anglomatosis of anencephaly seems to support this hypothesis.

DESIDHERAL MERVER

Spurling, R. G. and Jelema, Fr. Speamodic Torticollier Notes upon Its Ettology and Treatment, Senik, H J., 1933 XXVI, 237

The anthors briefly discuss the theories regarding the causes of spasmodic torticollis. The condition is characterized by uncontrollable spasmodic contrac tions of the neck muscles resulting in nearly constant terking of the head. The authors believe that a certain number of cases may have an organic basis of an inflammatory nature. In one case there was evidence of old inflammation in the pla-arachnoid of the upper cord. Another case was that of a girl who had had encephalitis letharrica.

The method of treatment used by the authors consists in sectioning the anterior and posterior roots of the first three cervical nerves and the sp hl por tion of the eleventh cranial nerve. Thro ma midline inciden the lamine of the first three covical vertebre are removed. The dura mater is opened in the midline and the anterior and posterior mots of the first three nerves are identified and out. The filaments comprising the spinal portion of the elementh crantal nerve course noward between the anterior and posterior roots. At the point where they unite a small artery is nouslly seen. Troublesome bleeding may ensure at this point if this years is not canent with cline before the nerve is cut

No restraining dressing is applied, but the head is kent immobilized for two days with sandbars. At the end of ten days the patient is encouraged to support his head while in hed, and after two weeks he is placed in a wheelchair and active movement is en constituend

In the two cases treated by this method the clonic twitching movements were completely relieved. Inne R. France M.D.

MISCELL WILDLING

Sarbó, A. von: The Microstructural Transmatic Changes in the Nervous System in the Light of Experiences in the World War (Die mkrystrukturellen traumarischen Verandersann de Nervensystems im Lichte der Kriemerishrungen) Schneis, Arch f Veneral a Perchia 1012 rds.

The author opposes, as he has done before, the common belief that all symptoms of the pervous system following trauma are a tranmatic neurosis of a hysterical reaction. He first discusses in detail the concepts of traumatic pennsyls and hysterical resc tion and calls attention to their varueness. He says that not all conditions without evidences of organic disease can be considered hysterical reactions, as it done by Lewandowsky Neither can every about mal functional condition be considered hysterical simply because the patient who is suffering from such a condition presents this or that stiems of hysteria.

Hoche claims that the World War showed that nearly everyone is subject to hysteria. phasizes that undoubtedly there are a great many post traumatic neurotics with very fine anatomical microstructural changes in the central nervous system which may be manifested also in a functional manner without additional organic changes. From the large number of cases of injuries which he observed in the World War he came to the conclusion that the late effects of bomb injuries are entirely of an organic nature. It would therefore be incorrect to speak of a shock effect if organic signs were not present at least at first. Accordingly the initial occurrence of unconsciousness, bradycardis, vonit ing, and retrograde amnesia after the return of consciousness is necessary to warrant the diagnosis of shock. The results of the cerebral insufficiency produced thereby are headachs, vertigo, restless sleep, quick physical and mental fatigue, forgetful ness, inability to concentrate, nervous irritability

increased refier irritability, and intolerance of alcohol. Another result may be hemiquela or neuroplegia, a third, deafmutism a fourth, meningiamus a fifth, cerebellar symptoms and a sixth, symptoms of uncomplicated concussion of the spinal cord. The author has frequently seen general icterus develop from meningiamus. In this connection he calls attention to the economic aspects of diseases of the atriate body. All of those marked disturbances of motility, anomalies of posture, and grinaces, the pathogenesis of which has been recognized only since recognition of the striate symptoms, were formerly interpreted as hysterical symptoms. The tit also belongs to this group

In support of his views the author cites the findings of the pathologuis the hemorrhages of a most delicate nature changes in the cells, chromatolysis and changes in the vasomotor system. The character of the disturbances varies with the site of the hemorrhages. The author believes that the microscopic indings of Most in the medula oblogata in

certain cases of late bomb injuries may be present without desimutism.

The clinical findings which the author cites in support of his views are the presence of blood in the cerebrospinal fluid shortly after the injury and the changes and displacements of the lateral ventricles which may be found even after years by encephalog raphy. Even injuries of the peripheral nervous system may produce externally clinical symptoms similar to those observed late in cases of bomb in juries. He cites freezing, drenchings, and infectious disease such as typhoid fever

He then takes up the symptomatic picture of pseudospastic paresis with tremor (Fueratiner Nonne) which he observed in hundreds of cases after the battle of the Carpathian Mountains, and then expresses his views on tremor the pathogenesis of which is still unknown. Finally he reviews physiological experiments on the isobolic and heterobolic systems in the nervous system and attempts to offer a solution with them.

Franc (2)

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Menville, J. G., and Bloodgood, J. C.: Subcuta neous Angiomata of the Breast. two Sarg tota zevil 401

Of 3,000 cases of breast conditions, an angiorna was found in q. Eight of the angiomats were benign and x was malignant. Of the 8 which were benign, 7 were harmangiomata and z was a lymphangioma Of the 7 hemanglemata only 2 was of the capillary variety. The 6 others were of the cavernous type The malignant angioma proved to be a he-mangloendothelions.

Capillary hemangiomata arise from isolated seg ments of a vessel wall and extend by prollieration of new vessels. Cavernous hamangiomata may be at tributed to weakening of the muscular and elastic coats liming the vessels.

Anglomata of the breast are usually found in middle-eged persons as slowly growing, semi-fluctuant subcutaneous tumors. The symptoms are generally of long duration. Angiomata may occur in the male breast as well as the female breast

As a rule the small localized angloma may be safely exched. In cases of larger and more diffuse lesions, which are usually cavernous bemangiomata excision is contra-indicated because of the vascularity of the tumor and because perfect harmostasis is sometimes impossible. As a rule irradiation should be the first treatment. SAMUEL KARRE MID

TRACREA, LUNGS AND PLEURA

De Winter I., and Sebrechts, J : Elective Collapse and Apirohals with Piombase by Means of Pedroculated Muscle Flape in the Treatment of Pulmonary Tuberculous (Le collapses electif et apicolyse avec plombage par mescles menis de leur pedicale vasculaire dans le traitement de la tuberculose pulmanaire) Arch. med-chir de l' pper PRINT 1012 VIL 177

Toffier was the first to conceive the idea of treat ing certain cases of polynomary toberculosis by extrapleural detachment of the apex. The authors describe their method of apicolysis and filling of the cavity with the pectoral muscles still provided with their vessels. The steps of the operation are shown in Illustrations. The results in 181 cases operated upon in the period from 1926 to Oct. 1, 1931 are riven in tables. The article includes also photographs and toentgenograms of some of the patients.

Surgical collapse is indicated in cases in which pneumotherax is prevented by pleural adhesions. It should be used in cases of progressive toher rulosis in which the progress of the condition will not stop until irreperable damage has been done. It should be limited to the diseased parts and their immediate neighborhood, and should be carried out in stages. No attempt should be made to fill a large cavity by apicolysis. It is best to begin with a small anicolysis and muscle filling and supple ment this later by thoracoplasty in 1 or more steecs. ACDREY GOME MORGAN ALD

Bernon A., and Frochand, H.: Various Operations for Collapse of the Apex of the Lung. Partiel Thorscopinsties With Apicolysis and Apicolysis With Picenbage (Les diverse operations du faissement du sommet du poumon. Thorscoplagies particlies avec apicolyse et apicolyses avec plosinge) A ch mid cher de l'apper resper 1931, vil. 550-

A few years ago it was generally believed that collapse of the upper part of the hing by partial thoracoplasty is vored involvement of the lower part of the lung by the intrabronchial amiration of mucopus from the collapsed apex, and that there fore thoracoplasty should siways be total. Recently the advocates of partial thoracoplasty have increased Some surgeons limit the operation to the first two ribs, which they approach by the supra clavicular route. Others perform a pleuroparietal detachment (apicolysis) of the lung and fill the cavity thus formed with various architances to prevent te-expansion. Still others have attempted a limited collapse of the lung by resection of the first ribs, a procedure called paravertebral partial thoracoplasty of the apex." Sauerbruch emphasized the danger of dimemination of the injection by partial intervention, but Bernou and Fruchand beheve that when partial thoracoolsaty is fimited to properly selected cases, i.e. cases of nicerofibrons tuberculous of the apex with alight secretion, and is performed with a good technique, the danger is much less than has been claimed, and that in any case the other side is quite as much endangered as the base of the lung treated.

On account of the obliquity of the ribs and the consequent anatomical structure of the thoracle cage the authors are convinced that even a very extensive resection of the two first ribs is less of fective than the resection of two or three subjected ribs. They state that as a rule the lowest rib to be resected should be that projected on the serres below the lexion. If the lexion is deep or near the anterior wall, the resection should extend farther down. In males, the resection should be extended two cibs below the projected lesion. Of the last rib, only the posterior angle need be resected. In females, a similar resection produces more marked collapse. This procedure has given very satisfac tory results. The surgeon may at least begin with it and extend the operation later if necessary

Bernot and Fruchaud do not recommend phreni cectomy as a preliminary to thoracoplasty except in cases in which it may be expected to reduce expectoration, the activity of the lesions, and the number of ribs to be resected. In cases of dense ulceroforous lesions limited to the upper lobe and already well retracted it is useless. Morrower it has the disadvantage of considerably reducing the function of the normal parenchyma of the base of the lung. It is contra indicated also in cases in which the opposite idde is not entirely normal.

In anicolysis with plombage the shock is con siderably less than in partial thoracoplasty Therefore the former procedure is indicated for patients who are unable to undergo thoracoplasty. The post operative pain is also much less after anicolysis than after thoracoplasty a fact of importance because of the effect of postoperative pain on efforts at ex pectoration and coughing. In well selected cases anicolysis with plombage often yields very quick results. Among the complications to be feared during or after the operation are elimination of the parafin through the operative wound, extrapleural harmorrhages and serohamorrhagic effusions, tear ing of the pleura, perforation of the lung cardiovascular complications, postoperative dissemination and infection. The results depend entirely on the therapeutic indication and surgical technique. As a rule the immediate postoperative course is very The temperature usually ranges from 38 to 30 degrees C. for a few days and then rapidly falls. However, it sometimes remains slightly elevated for several weeks. Occasionally the patient complains of pain in the shoulder but this subsides rapidly The clinical signs improve more or less promptly but sometimes not until after a period of increased expectoration such as may occur after any type of collapse therapy

Thoracoplasty and extrapleural plombage are in dicated only when pneumothorax is impossible or has been rendered insufficient by adhesions or some other factor or when phrenicectomy would have only a poor chance of affecting the lesion in the apex of the lung or has been proved unsatisfactory.

Phrenicettomy should be reserved for cases of markedly active and exudative lesions, and in these it should be done with the hope that a thoracoplasty or an apticulysis may be performed later under more favorable conditions. The thoracoplasty or apicoly sis abould be delayed until the phrenicectomy has had time to exert its fullest effect.

Partial thoracoplasty has its most definite indication in cases of old dense, more or less markedly retracted fibrocaseous lesions of the aper with little erudate. Large encysted cavities with apparently non retractic walls should be treated by thoracoplasty as plombage has a tendency to force them downward without favoring retraction. Thoracoplasty is indicated also for recent, and cavities adherent to the walls. The chance of success is greater the more external the cavity. For cavities projecting inward from a line passing through the

middle of the clavicle a combination of partial operations, either simultaneous or successive, may be necessary. The authors have not hesitated to use plombage for small cavities in the upper in ternal region of the lung. Partial thoracoplasty may be done also as a supplement to pneumothorax which has left the aper adherent. Some surgeons believed that plombage would be a good adjunct to pneumothorax, but were obliged to abandon its because the plug showed a tendency to slip

Plombage is indicated for (1) small, nonencysted agneal cavities (2) bilateral circumscribed foci, (3) certain cases of extensive tuberculosis in debilitated subjects in whom extensive thoracoplasty seems contra-indicated and (4) cases in which thoracoplasty has proved insufficient.

The dyspiners cardiac agitation, and shock so frequently mentioned as complications of these interventions a few years ago are today exceptional. The decrease in their incidence is due to a number of factors the use of local anesthesis the selection of incisions giving wide operative exposure without gross mutilation of the muscles gentleness of manipulation careful hiemostasis, and limitation of the operations to cases in which they are definitely indicated.

Frommel E.: Primary Carinoma and Tuberculosis of the Lung (Cancer primitif et tuberculose du poumon) Res with de la Suine Rew 1933, lill, 7

Frommel reviews the literature on the relation of cardnoma and tuberculosis of the lung and reports the histories and sutopy findings in nine cases picked from fifty cases of pulmonary neoplasms. He attempts to answer the following questions

r Is there any anatomical relation between cancer and tuberculosis?

2. Does the tuberculous process become can-

2 Does the tuberculous process become cancerous or vice versa?

3 Does death result from the cancer or the tuberculosis?

The cases reported are divided into two groups (1) six cases of cardnoma occurring in the same lobe with an old tuberculosis that had shown no recent sign of activity and (2) three case of cancer associated with active tuberculosis in the same lobe.

Frommel concludes from his observations that the cancerous process is ingrafted upon the tuberculosis that the tuberculosis is a precancerous affection that the two conditions bear a very close relationship to each other and that in the majority of cases the carcinoma develops in an old or only very slightly active tuberculous process.

MARSH W POOLE, M.D.

GSOPHAGUS AND MEDIASTINUM

Parceller A. and Chenut, A.: Deep Diverticula of the Œsophagus (Les diverticules profonds de loesophage) Bordeaux chir 1933 No 1 25.

Most esophageal diverticula occur in the upper third or cervical portion of the esophagus. Regard less of their location, they cause no symptoms until they attain a certain size. Most of them are not diagnosed because they must attain at least the size of a wainut to be discovered by Y ray examination.

Diverticula of the oscophagus are of three typestraction diverticula, public diverticula, and diverticula susciated with mega-crophagus. Traction diverticula, the most common type, are small and usually found at the level of the bifurcation of the trackes. They are symptomices except when, as rarely they rupture and give rise to an alarming clinical picture such as that for pulmonary abscess or crophagotracheal fatula. Pulsion diverticula are rare. Prazvosali found only in autopsise performed during a period of five years. They were located in the middle or lower third of the crophagus. They are often designated as epiphrenic diverticula and are most amenable of the deep diverticula to surgery Twelve cases of diverticula associated with mega crophagus were reported by Smith.

Some surgeons believe that pulsion diverticular rarely give rise to symptoms unless they are associated with cardiospann, but the authors believe that if they attain the size of a wallmut they cause difficulty in deglutition, particularly of solids, regurgitation of food eaten at previous meals, and such eccondary symptoms as loss of weight. When the symptoms are not amenable to medical treatment resection of the diverticulum abould be planned.

Most pulses discreticals in the lower third of the capolague—after out of twelve according to Desecker—occur on the right side anteriority Several operations for their right have been aug gested. Zasjer recomments fixing the act to the chest wall, opening it after the formation of adhesions, and then allowing it to fill in by granulation. This top-ration is applicable only to very large discreticals. Another operation consists in anastomosis of the discreticalism to the storage. This is applicable only to directionly on the left side and frequently is followed by loosening of the struce line.

The operation recommended by the authors is complete resection. So far as the authors are aware. it has been done successfully in only five cases. In s of them it was done by Sauerbruch. The chief difficulty in operation for amountageal diverticula has been the high incidence of pulmonary infection due to the fact that the cesophagus has been approached by the transplenral route. The authors describe an operation for the resection of diverticula in the lower third of the emophagus on the right aide by a subpleural approach. A vertical incision is made on the posterior chest wall, about two fingerbreadths from the midline of the back, from the level of the ninth rib down to the eleventh rib and then horizontally along the eleventh rib to the posterior axillary line. The tenth, eleventh, and twelfth ribs are resected to the posterior axillary line for a distance of about 10 cm. The ninth rib is cut at the same level to allow more room, but is not resected. The pleura is reflected from the ribs and disphragm by blunt dissection. This subpleural approach allows easy delivery of the exceptagus for a distance of 2 or 6 cm. The diverticulum is them reacted and the catephagus closed with three layers of sutures. In their crucae, that of a man forty nine years old, the authors placed a large drain in the region of the anastomatic addition to a gause pack. The drain was removed by gradual traction by the second day, and the pack was removed on the seventh day. The patient died on the thirtleth day after the operation from sudden reputure of the sorts due apparently to injury to the vessel by the drain. The authors therefore advise the use of small, fine dains.

In conclusion Parceller and Chenut review to operative results in seven case of intrathoracis diverticula of the crosphagus—foor treated by Sauerbruch, one by Voa-Quantero, one by Enderien, and one by Sterlin, and their own case. Death occurred in the three last mentioned cases and in one of those treated by Sauerbruch.

HOMERY T GARLE, M.D.

MISCELLANDOUS

Paxzagil, R., and Lucarelli, G.: Experimental Research on Surgical Immobilization of the Thorax (Riccrobs sperimental sala imnobilizasione chirurgica del toracs) Arck. Bal di chi-1933 strili, 37

Within a few years the well-known methods for immobilization of the thorax have been increased by scalencetomy of all three groups of scalenus musicia and neurectomy or alcohol injection of the intercatal nerves. The authors report an experimental study of the effects of these procedures used alone and in conjunction with others.

The action of the scalems muscles seems to depend on their function in the fination of the first two ribs so that the intercental muscles may act from these fixed points. Various techniques for scaletomy have been described. In clinical cases scaleactiony results in a reduction of approximately per per cent in pulmonary ventilation. In dopt, the authors found that it caused a definite reduction in the thoracic excursion on the side operated on.

In clinical cases neurectomy of the intercessal nerves results in a variable decrease of thorack movement. In animals, the authors found that it caused a definite diminution in the depth of the respirations on the affected side but no change in the rate.

Alcobol injection of the intercostal nerves in animals resulted in some irregularity of respiration on both sides, but practically no change in the thoracic excursion. After a month or two the rate became regular and normal again.

The combination of scalenectomy neurectomy of the intercostal nerves, and phrenico-exercis resulted in the most marked permanent reduction of the thoracic excursion, but the reduction was not equal to the sum of the reductions noted when these procedures were doop individually

A. LOUIS ROW, M.D.

Reichert F L. Experimental Studies on the Effect of Paralysis of the Disphragm and of Its Remoral. J Thoracis Surg. 1933, ii, 349.

Reichert reports experiments carried out on dogs to determine the late changes following unilateral phrenicotomy and to note whether paralysis of one side of the diaphragm would produce any effect upon the growing puppy. Attempts were made also to produce diaphragmatic herals. Subsequently the effects of total paralysis of the diaphragm and of subtotal and total removal of this muscle were studied to determine what procedure might be use ful in clusical cases in which it is necessary to remove a large portion of the diaphragm.

In young and half grown pupples which were kept under observation as long as two years after the operation, unilateral phrenicotomy caused no change in the movement or shape of the thorax or the de-

velopment of the thoracic cage.

Föllowing double phrenlectomy with diaphrag mitto paralysis paradoxical respiration developed at once. The diaphragm was found elevated and the abdominal wall and lower thorax were retracted, but the midthoracic region was enlarged on unspiration to a degree which compensated by half the decrease in the pulmonary area caused by the elevation of the diaphragm. On inspiration there was alight decrease in the pulmonary area, but the maximum effect of this was offset by the midthoracic enlargement. On expiration, the pulmonary area was decreased only by the elevation of the diaphragm On inspiration as compared with expiration, the heart shadow was slightly larger and shifted to the right.

Efforts to produce disphragmatic hernia in pupples, with and without previous hemiparalysis of the disphragm, were made in the following way

A stoot linen thread was passed through the dome of the left diaphragm in such a manner that by a sawing motion the thread could be made to cut through the diaphragm, leaving a crescent or nearly circular opening. With the animal still under ether aneathesia, sudden pressure was made upon the abdomen and in some instances the peritoneal cavity was distended with injected sir. In other cases this procedure was carried out a month after the left diaphragm had been paralyzed by phrenicotomy Herniation could not be produced consistently in any case.

In one dog deliberate excision of both domes of the paralyzed dispiragm was done six weeks after bilateral phremicotomy the crura, the croophageal opening, and the opening of the vera cava being left undisturbed. After this procedure Y ray examination showed changes in the shape of the thorax which produced a hight decrease in the pulmonary area, but in no case was a hernial sac formed nor was there any further ascent of the abdominal contents.

Finally total and subtotal removal of the dis phragm were done to determine how much of the diaphragm could be removed successfully whether previous paralysis of the muscle facilitated removal

and what factors peopardized the successful operative procedure. It was hoped that something might be learned of the feasibility of excision of large portions of the disphragm for malignant growths. Total removal was invariably fatal not, however because of the direct effects upon the lungs, but because of interference with the circulation resulting from the mobilization of the heart produced by separation of the mediantinum from the disphragm and by congestion of the abdominal organs caused by kinking of the vena cava. When the heart was immobilized by anchoring the mediantinum to the chest wall, the opening for the vena cava being left undisturbed, the animals showed no more disturbance than after paralysis or partial removal of the disphragm.

The author summarizes his findings as follows in Unilateral phrenicotomy caused no changes in the movement, shape, or development of the thoracic

cage.

2 Paralysis of the diaphragm was immediate and hemi-atrophy was evident within two weeks after

the phrenicotomy

3 Tears in a normal or paralyzed hemi-dia phragm followed by sudden abdominal pressure

failed to produce herniation.

4. Blateral phrenicotomy was followed immediately by paradoxical respiration and a scaphold abdomen, but the activity of the animal was unimpaired. Enlargement of the middborace region upon inspiration compensated by half for the decrease in the pulmonary area caused by the elevation of the diaphragm. The cardiac shadow on expiration was alightly larger and shifted to the right.

5 Total removal of the diaphragm was uniformly fatal because of interference with the circulation caused by mobilization of the heart and kinking

of the vena cava

6 When the heart was stabilized by suturing the mediastinum to the chest wall, the opening for the vena cava being left undisturbed subtotal dia phragmeetomy was not fatal.

G PAUL LAROQUE, M.D.

Contat, C.: A Contribution to the Study of Dia phragmatic Hernie. A Case of True Congenital Diaphragmatic Hernia (Contribution à létude des hernies disphragmatiques. Un cas de hernie diaphragmatique congénitale vraie) Ann d'asai philh, 1933 N. 1948.

The author reports a case of true congenital parasternal disphragmatic hernis in an infant eight en months old. Farasternal localization of congenital disphragmatic hernie is extremely rare. Only three other cases of such localization have been recorded in the literature namely those reported by Kratzensen, Thoma and Eppinger Hernie of this type are formed after the third month of intra-uterine life. They are probably caused by the slow and progressive crowding together of her nial masses into areas of decreased resistance by the pressure of the intestinal mass augmented by the pressure carried by excessive development of

the right lobe of the liver. The rare retrosternal and bilateral localization may be due to formation of the hernia through the primary stemocostal interstices of the dasphragm. The small size of the hernial masses may explain the fact that the lesion is relatively well tolerated in spire of the excessive development of the liver and the consequent displacement of several of the important abdominal vicers.

In the case reported by the author death occurred from chronic bronchoneumonia with palmonary employems leading to secondary acute dilatation of the heart, acute congenition of the principal vascers, and extreme exchesis, but it is probable that the hersia had some infinence on the course of the perimonary affection as crowding of the heart against the lung formed a groove in the lower look of the left lung. Absence of music fibers in the membranous band separating the two hernial sacs at the median line and in the wall of the sax was an

important feature

In discussion disphragmatic hernia in general the author mentions acquired bernie only briefly to emphasize the occasional appearance of a nontraumatic type in the ared. These are true paraster nal hernic. Between the costal and sternal fibers and between the costal fibers themselves there will be found in most cases a space descived of muscle fibers where the pleurs and peritoneum are in direct communication except for the internosition of fatty tisme. Some surreous attribute these hernin to the existence of a normal hiatus between the costal and sternal fibers. Others believe they are due to a visceral cause. In the aged, circulatory disturbances are common and the disphrasm may have lost its normal histological structure, giving place to a fibrous tissue. Microscorde examinations seem to surport the latter theory

Most reports on congenital diaphragmatic herain are concerned with false rather than true herain. True herain are much less common than false herain

The false congenited disphagamatic hernis has obernish as and is due to arrest of development before closure of the coclomic cavity of the embry, i.e., between the third week and third month of intra-atterine life. False congenital disphargamatic hernise constitutes 85,75 per cent of coegnital disphargamatic hernise. They occur fave times as often on the left side as on the right side. By some, this is attributed to the fact that the liver is more developed on the right side. It is probable that most false congenital disphargamatic hernise are formed at the end of the second or the beginning of the third set the end of the second or the beginning of the third

month of present of The true congenital disphraematic hernia has a sac. It occurs about four times as often on the left side as on the right side. The size of the membranous sac varies according to the extent of the lexion. Hernia of this type are found most commonly in the region of the lumbouteral triangle, to the right of the speculum belmontil or in the center of the disphraematic arc. Parasternal localization is very rate. Most surreons believe that arres of diminished resistance play an important part in their development. It seems to the author necessary to add a special influence of the abdominal mass pressing unward. The leaser development of the left lobe of the liver is attributed also to pressure of the viscers. Such pressure is exerted slowly progressively and constantly and after the third month of intra-uteries life prevents the development of muscle fibers, thus forming a new area of diminished resistance. fact that the left balf of the diaphragm closes later than the right may also explain the greater incidence of disphragmatic bernia on the left than the right side. Perry S Moore.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Rademaker L.: The Effect of Blood in Experimental Peritonitia. Ass. Surg 1933 xxvii, 414.

From experiments on guines pigs the author con dudes that blood injected intraperitoneally with organisms not only causes no predisposition to peritonitis, but offers some protection against it at least so far as the colon bacillus is concerned.

Of control animals receiving a minimal lethal dose of organisms, all died whereas of sixteen receiving a minimal lethal dose of organisms with varying amounts of blood only is died from perticultis and these two received only a small amount of blood. Doses below the infinital lethal amount were not raised to the minimal lethal amount by the use of blood. That this effect was not the result of mechanical dilution was later proved by the addition of broth in varying quantities to the minimal lethal doses of bacteria without effect.

Peritoneal smears also indicated that blood hastens the disappearance of bacteria from the peritoneum.

As Allen has shown that the addition of a small amount of blood increases the incidence of empytems of the pleural cavity when certain organisms are in jected, the results of the author's experiments suggest that the pleura and peritoneum do not respond in a similar manner to the presence of blood introduced with organisms. SAMUR. KARM M.D.

GASTRO-INTESTINAL TRACT

Mondor II., and Porcher P: Urgent Y Ray Exanimations in Paritonitis Following Perforation of the Digestive Tract (Examins radiologiques durance des périonites par perforation du table digestif) J & cht., 1933, 24, 30.

In cases in which a silent perforation of the digestive tract with the production of pneumoperitoneum is suspected, early \-ray examination is imperative and often will save life. A fluoroscopic examination should be made first with the patient in dorsal decu bitus to study the motility of the diaphragm and the topography of the gas spots in the abdomen, and then with the patient in the vertical position to ex amine the subphrenic space for the collection of gas. Roentgenograms should be made with the patient in the vertical and left lateral decubitus positions. The authors warn against the administration of a barium meal and of gaseous substances. Immobilization of the diaphragm by a subphrenic collection of gas sec ondary to perforation was not observed in their series of seventeen cases. Occasionally there was limitation of respiratory movement which appeared to be associated with contraction of the abdominal

muscles. In one case a subhepatic bubble of gas was observed when there was no gas under the right leaf of the disphragm.

In some cases pneumoperitoneum is not recognized because the examination is made too quickly or with Inadequate apparatus or pneumoperitoneum is diagnosed when it is not present or it is interpreted incorrectly. In one of the cases cated by the authors the colon interposed itself between the liver and the right leaf of the disphragm, pushing the liver down and producing an X-ray picture suggesting pneumoperitoneum.

Assmann states that whereas the gas in the colon is only alightly mobile, intraperitoneal gas varies with the position of the patient and rises to the area

of highest elevation.

Cases of postoperative pneumoperatoneum were also studied with the X ray. In one of them the gas

also studied with the X ray. In one of them the gas remained for nineteen days.

The authors report several cases in which per

The authors report several cases in which per forating ulcers not recognized clauseally were diag nosed by the X ray demonstration of meumoperitoneur review case of typhoid, peptic, tuberculous, dysenteric, and traumatic perforations from the literature and report two cases of perforated peptic ulcer and perforated ulcer of Meckel's diverticulum occurring in children.

In conclusion they state that the absence of pneumoperitoneum in case of suspected perforating ulcer does not contra indicate laparotomy and that an X-ray diagnosis of pneumoperitoneum confirms the clinical demonstration of tympany over the liver

The article contains numerous roentgenograms.

Francois Jesus De Prume, M.D.

McIver M A.: Acute Intestinal Obstruction Fourth Installment, Am J Surg 1933 XX, 169.

Neoplasms are responsible for about 17 per cent of all cases of obstruction of the intestance exclusive of those caused by external strangulated hernia, and are the most common cause of intestinal obstruction. exclusive of hernia, in persons past middle life. Of 32 Cases of obstruction due to neoplasms in the Massachusetts General Hospital, 10 were due to primary carcinoma of the bowel and 6 to metastatic carcinoma. Of the primary neoplasms, those arising in the large intestine were the most frequent cause of obstruction, and of the latter those located in the sigmoid accounted for about half of the obstructions. Cardnoma of the sigmoid was the cause of the obstruction in 12 cases. In the 13 other cases of car cinoma, the sites of the lesion were equally distributed among the other anatomical divisions of the large intestine.

Acute obstruction from a neoplasm is usually the result of a stenosing fibrocarcinoma and is probably

the right lobe of the liver. The rare retroaternal and bilateral localization may be due to formation of the bernia through the primary aternocestal interstices of the disphraem. The small size of the bernial masses may explain the fact that the lesion is relatively well tolerated in solte of the excessive development of the liver and the conserment displacement of several of the important abdominal -

In the case reported by the author death occurred from chronic branchopaeumonia with pulmonary emphysems leading to secondary acute dilatation of the heart, acute consession of the principal viscers. and extreme cacheria, but it is probable that the bernia had some influence on the course of the nulmonary affection as crowding of the heart against the hone formed a groove in the lower labe of the left lung. Absence of muscle fibers in the membranous hand senarating the two hernial sacs at the median line and in the wall of the sac was an

Important feature

In discussing disphragmatic herois in general the author mentions acquired hernin only briefly to emphasize the occasional appearance of a non-traumatic type in the aged. These are true paraster nal hernie. Between the coatal and sternal fibers and between the costal fibers themselves there will he found in most cases a space deprived of muscle fibers where the pleurs and peritoneum are in direct communication except for the interposition of fatty thems. Some surreous attribute these bernin to the existence of a normal histor between the costal and sternal fibers. Others believe they are due to a visceral cause. In the aged, circulatory disturbances are common and the disphrasm may have lost its normal histological structure giving place to a fibrous tissue. Microscopic examinations seem to support the latter theory

Most reports on consenital diaphrasmatic bersis are concerned with false rather than true bernie True hemin are much less common than false herrie.

The false concenital disphresmatic bernia has no hernial sac and is due to arrest of development before closure of the codomic cavity of the embryo. i.e., between the third week and third month of intra-ntering life. False convenital diaphraematic hernie constitute 80.75 per cent of congenital di-aphragmatic bernie. They occur five times as often on the left side as on the right side. By some this is attributed to the fact that the liver is more developed on the right side. It is probable that most false consenital disphragmatic bernis are formed at the end of the second or the beginning of the third

month of premancy

The true consenital disphraematic hernia has a sac. It occurs about four times as often on the left side as on the right side. The size of the membranous sac varies according to the extent of the lesion. Hernie of this type are found most commonly in the region of the lumbouacral triangle, to the right of the speculum helmontil or in the center of the disphrasmatic are. Parasternal localization is very rare. Most surrence believe that areas of dimbrished resistance play an important part in their development. It seems to the author necessary to add a special influence of the abdominal mass pressing upward. The lesser development of the left lobe of the liver is attributed also to pressure of the viscers. Such pressure is exerted slowly progressively and constantly and after the third month of intra-utering life prevents the development of muscle fibers, thus forming a new area of diminished resistance. The fact that the left half of the diaphraem closes later than the right may also explain the greater incidence of disphragmatic bernla on the left than the right surviving for fifty two and seventy days the out standing feature was marked emacation.

The authors conclude that an important cause of death in high intestmal obstruction is the loss of digestive secretions. Sodium chloride solution ad ministered through a jejunostomy opening below the obstruction replaces the water and important blood electrolytes, fixed base (chiefly sodium) and chloride ions which are ordinarily lost as the result of failure of absorption and continued vomiting. In low obstruction and obstruction complicated by necrosis of the bowel, the loss of digestive secretions may be a factor in the causation of death, but is of varying importance. In these conditions toxemia probably plays the more important rôle and operative rehef of the obstruction should be done immedutely The beneficial effect of the subcutaneous or intravenous administration of saline solution appears to depend largely on the extent to which the body has suffered from the loss of digestive secretions due to failure of re absorption and vomiting

Jonn W Nurum, M.D.

Otschkin A. D. The Clinical Aspects of Thrombosis of the Mesanteric Veins and the Portal Vein in Appendicitis (Zur Klinik der Thrombose der Mesanterialvenen und der Pfortader bei Appendicitis) Arch. f bin Chir., 1932 chat, 758.

Thrombosis of the mesenteric veins usually develops in such a manner that a thrombus of the veins of the mesenteriolum of the inflamed appendix is formed. The thrombus extends into the ileocolic vein, the superior mesenteric vein, and finally into the portal vein with its branches in the liver Sometimes, from the thrombus in the mesenterium or the ileocolic vein a piece breaks off as an embolus and, avoiding the valves of the vem, reaches the liver directly and causes the formation of a solitary abscess. The size of the thrombosed area and the clinical course do not depend to any degree upon the amount of change in the appendix. Occasionally extensive thromboses with suppurative degeneration accompany changes in the appendix which can be demonstrated only microscopically On the other hand the most extensive destructive processes of the appendix may not produce pylephlebitis.

The following figures show the frequency of pyelephilebits restorated any fin 9.68 Matterstock as pyelephilebits. Restorated saw 5 in 9.68 Matterstock as 11 in 143, Moschkowitz saw 7 in 1 529, Bruehe saw 15 in 2 500, and Eliason saw 3 in 1 529, Bruehe saw 15 in 2 500, and Eliason saw 3 in 2,337 Of 4.6 cases of pylephilebits, collected by Lugdon Brown, 42 per cent were crused by appendicitis. Eliason and Stillman found that pylephilebits occurred in 7 per cent of cases of appendicitis. According to Burlow Bendle Short found pylephilebits in only 0.4 per cent of 2 714 cases of appendicitis, Genter found it 9 times in 1180, cases, and Krogius found it twice in 1,000 cases. Of the author 2 692 cases of acute appendicitis pylephilebits occurred in 15 (6.88 per cent) In 9 it was not recognized during life.

A review of the total autopay material in the period from 1911 to 1931 (15),747 autopsies) revealed 25 cases of pylephlebitis in which appendicitis with thrombosis of the mesenteric and liver vents was present. Twelve of these cases came from the sur gical clinic and the remaining 13 from the other departments of the hospital. In the latter the dag nesis before autopsy was abdominal typhus, typhod fever suppurative anglocholitis, adnexal disease, sepsis, or tuberculous peritonitis. In all of these cases the disease, had its origin in the appendix.

The clinical picture of this complication, which frequently presents great difficulties in diagnosis is described by the author on the basis of 10 case histories. In 3 of the cases the peritoneal symptom which is so characteristic of acute appendicitis was obscured by a severe infection which had no con nection with the point of origin. Accordingly for this reason also an incorrect diagnosis was made. At first, there were pains in the abdomen but none was localized at McBurney's point. For the most part, the pains were in the upper part of the abdomen on the right side in relationship to the incipient involvement of the liver. The difficulties in the diagnosis are greater the later the patient comes for treatment. The variations from the syndrome of scute appendicatis consist of the short duration of the symptoms, their slight intensity and their disproportion to the severe general clinical picture. An outstanding symptom is distention of the abdomen in the nearly complete absence of dyspeptic symptoms and intestinal paralysis. Characteristic are chills which frequently indicate the beginning of the disease The leucocyte count ranges from 10,200 to 28,000 The blood picture is characterized by a constant diminution of the erythrocyte count and hamoglobin content. The increase in the leucocyte count apparently coincides with the suppurative degeneration of the thrombi and the formation of suppurative foci in the retroperitoneal cellular tissue or the liver Icterus of the science appears with the spread of the inflammatory process to the liver tissue. A rapidly increasing icterus in the presence of continuous chills is unfavorable and may lead to a false diagnosis. The clinical meture is character ized by asthenia and fatigue. Consciousness remains clear up to the last day. True ascates is not observed. In 3 of the author's cases elevation of the dome of the right side of the disphragm was seen on roentgen examination.

In 7 of the 10 cases reported death resulted On the basis of 53 cases collected from the literature and 14 cases of his own in which there were 7 deaths, Elisson reported the mortality as 54.5 per cent. In 15 cases seen by the author there were 12 deaths a mortality of 80 per cent.

As a surgical measure against thrombosis, Wilms recommends ligation of the Heocelic vein at the Heocelic angle. Braun attempts to prevent further spread of the thrombus to the portal vein by ligating the Heocelic vein at the point where it empires into the superior measureric vein and performs this

ligation as soon as possible in cases of appendicitis in which thrombosis is suspected. Michilor collected from the literature 8 cases which were treated by this method with a successful outcome and reported acase of his own in which are laptoratomy with ligation of the fleccolic vein was done because of chilis following asopendectomy. The result was successful.

The author concludes that early diagnosts and operation are the best presentives of pylophichidis. Ligation of the ileccolic vein according to Bruns method is to be regarded only as an autiliary measure against the severe complications accompanying pylophichids. It is possible for a thorobosis to run a favorable course, but this cannot be foretoid in the individual case. Harmans (2)

Raiford T 8.: Carcinoma of the Transverse Colon. Surg. Gyest. & Okst. 1933, 1vi, 820.

Of agr cardiomats of the colon treated at the Johns Hopkins Hopkins, Baltimore, only a 1/2 a per cent) were located in the transvense colon between the hepatic and splanic factures. Twenty-one were in the hepatic ficture, 18 in the splanic finure, 100 in the descending colon and seproid, and 60 in the ascending colon and occum. The site of the remaining 31 could not be saccertained from the records.

ing it could not be ascertained from the records.

The transvense colon is approximately of the same length as the ascending and the descending colon, but the frequency of cancer in the transvense colon is only one fifth that of cancer in the ascending or descending colon. There is no great difference in the incidence of cancer in the transvense colon as com-

pared with the hepatic and splenic flexures.

The transverse colon is functionally more active
and therefore less subject to stask than other parts
of the colon, but stasks and irritation have not been
proved responsible factors in cancer formation.

Of the as tumors reviewed by the author, all occurred in white persons. Thirteen of the patients were males. The majority of the tumors were of the annular "napkin-ring type and on histological eramination were found to be adenocurremants, Stry per cent showed monoid degeneration.

The clinical symptoms of the disease are not specific until obstruction occurs. They are fre opently similar to those of stomach and gail-bladder disease. Tomors are usually palpable early The diagnosis must be made by X-ray examination after a burium enant. Extension of the disease to the stomach occurred in 3 of the 112 causes reported. To discover such extension before operation the stomach should be examined with the X-ray after a barium meal. In the surpical treatment removal of a portion of the stomach may be necessary. More commonly the postcior wall is removed.

(if the 2s cases smided, 18 were operated upon Siz (33% per cont) of the patients operated upon died as the result of the operation and a died of recurrence. In the cases of 4 the ultimate result is not known. Three who were operated upon five years ago and 3 who were operated upon five her years ago are apparently well. With regard to the technique of the operative procedure the author calls attention to the fart that extension of the disease along the lumen of the bowel is of less importance than has libitario been believed. The disease has rarely been found nor than; in from the sits of the primary growth. The importance of the removal of a wide margin of gut is therefore frequently overrated.

Great care is necessary to dissect each branch of the middle colic artery so that the viability of both stumps will be preserved. In fat mesenteries this may be difficult.

After resection, end-to-end or lateral anatomosis may be done, depending on the case. The author periors lateral anatomosis when it is possible of the a satisfactory methods of lateral anatomosis-isoperistalitic and antiperistalite—he perform the authoristic method of Bloodgood. This brings the blind ends of gut outside of the peritoneal owly to that in case of gangrine or repture of the blind ends nothing more harmful than a facel fattith will result.

If the tumor is in the proximal portion of the transverse colon, the entire right half of the colon should be removed.

Adenocarcinoma is not radiosemitive.

G. Paul La Roove, M.D.

Keller W L.: Annular Stricture of the Rectum and Anne. 4m. J Surg 1031 xx, s5.

This is a preliminary report, based on eight cases, regarding the treatment of annular stricture of the rectum and anus by tunnel akin grafts.

The tunnel grating is preceded by local irrigation for several days to diminish espite procifits. It consists essentially in threading tubular skin gratic beneath the structured and surface, parallel with the anal canal, in the four quadrants. After the parts have become established they are incided impiredinally with one blade of the science in the canal of the graft and the other blade in the said canal, the anal orthic and rectal canal being thereby relaxered.

In the cases reviewed the operative record covers a period of eleven years. The operation was successful in seven of the eight cases.

CHARLES F DUBORS, M.D.

Kallet, H. I., and Saltzatein, H. C.: Sarcosse. Melanoma, and Leuknearcoma of the Rectum. Arck. Surg. 1933, xxvi, 633.

Five-tentis per cent of all rectal peoplesms are surcomata.

The authors report three surcomats, three melanomats, and one leukosurcoms of the rectum. There was little distinguishable difference between the clinical course of melanoma and surcomat. Even a listsological differentiation between these two types of turnor may be difficult as melanomical to the course of th

Both surcoms and melanotic growths arise beneath the mucosa, ordinarily in either the anal canal or the lowest part of the ampulla. In the cases reported by the authors they originated on the anterior rectal wall although it is usually stated that the posterior wall is involved first.

The primary objective manifestation—the mass beneath the mucosa-is at first of insignificant appearance and may be confused with a benign

polyp or hamorrhold.

The mucosa remains intact as the early growth proceeds. Sometimes a polyp develops and is extruded with bowel movements. More often there is a local mass which is indistinguishable from car cinoma except that the mucosa remains intact longer, ulceration occurs later the marked obstruc tion characteristic of some rectal cancers is absent, and digital examination gives the sensation of compression from an extramucosal mass rather than the sensation of direct involvement of the mucosa with early crater formation.

The prognosis is very unfavorable. Of the pa tients whose cases are reported by the authors all are dead except one who was well eight months after treatment. One lived four years after the removal of a rectal polyp which showed melanoma on microscopic examination, and then died following

cerebral symptoms.

Chlabolm, A. J. The Relation of Pulmonary Tuberculous to Anorectal Fistules; A Clinical, Pathological and Bacteriological Study Surg., Gyner. & Obst., 1933 lvl, 610.

As the result of sanitary hygiene the incidence of fistula in-ano has steadily decreased. The decrease has been especially marked in the last twenty years. The primary cause of the condition is an abscess in the tissues surrounding the rectum which is brought about by congenital cysts, a foreign body fissures, ulcers, suppuration of the intramuscular glands, or tubercle. Except in cases of tubercle, the infective organism is probably not important. Tuberculous fistule can usually be diagnosed from the appearance of the parts, but this is not entirely reliable. Histological examination of a few pieces of the wall of the fistula is fairly reliable, but the diagnosis can be made with certainty only by in oculation of guinea piga.

Ischlorectal abscess and fistula-in-ano occur in males about 8 times as often as in females. In about 5 per cent of cases of pulmonary tuberculosis in males the pulmonary condition is associated at some time with ischiorectal abscess or fistula. Fistula occurs 13 times more often in tuberculous than in non tuberculous males and frequently before any signs of lung lesions. It is most common be tween the ages of thirty and forty years.

Of 155 patients with anorectal fistula whose cases are reviewed by the author 106 were free from evidence of pulmonary tuberculosis, 18 had an ar rested pulmonary tuberculosis and 31 had an active

pulmonary lesion.

Tubercle bacilli were found by bacteriological methods (guines pig inoculation and cultures) in the cases of 77 per cent of the patients with active pulmonary tuberculosis, 55 per cent of those with inactive pulmonary tuberculosis and none of those who were free from evidence of pulmonary tuber culosis. This suggests a close etiological relation ship between tuberculous of the lungs and tubercu lous ischlorectal abscess and anorectal fistula. WILLIAM E. SHACKLETON M.D.

LIVER, GALL BLADDER, PANCREAS, AND SPLEEN

Melli, G: Hepatosplenomegaly with Jaundice (Epato-splenomegalie con ittero) Polidin Rome, 1013 Il. sex med. 60

The author reports the cases of five patients who for periods ranging from seven to nine years suffered from saundice associated with enlargement of the liver and spleen. The easential pathological process was studied at operation or autopsy 50 far as could be determined clinically the jaundice seemed to be due to incomplete occlusion of the biliery processes The patients experienced attacks of fever alternating with periods of freedom from symptoms

In discussing the pathological processes capable of producing the symptoms noted in his cases the author refers particularly to the effect of calculi and chronic infections in the biliary passages. He doubts that hyperactivity of the liver or 'hyperhepatism is the fundamental factor. He doubts even the oc-

currence of such a condition.

Melli discusses also the relationship of his cases to Hanot's disease. He reviews the theories regarding the causes of Hanot a disease and concludes that the basic factor is an obstruction of the biliary passages, commonly from calcul or angrocholitis and pericholangeitis, which initiates and maintains a chronic infection of the bile ducts and liver cells. The en largement of the spleen he attributes to infection and stasis.

Early surgical intervention for relief of the biliary obstruction offers the only means of radical cure.

PETER A. ROSI, M.D.

Mocquot P : Surgical Intervention in Certain Re-tention Jaundiese Without Organic Obstruction. The Influence of External Billary Drain age on the Hepatic Functions (L'intervention chirurgicale dans certaines ictères par rétention sans obstacle. Influence du drainage biliaire externe sur les fonctions hépatiques) J de chu- 1933 zli 177

The author reports two new cases which support his previously expressed theory that an obstructive type of jaundice may occur without ac tual obstruction and should be treated by biliary dramage.

The first case was that of a woman forty-one years old who gave a history of intermittent attacks of dyspepsia and colicky pain in the upper right quad rant of the abdomen, the last one of which was assoclated with faundice. These symptoms dated back nine years. The stools had often been clay colored and the prine dark

At operation, no pathological changes could be discovered in the bile paragea. The liver was moderately calarged, but otherwise normal. Simple cholecystostomy was performed. The bile from the fistila was sterile. At times it was dark and thick, and at other times pale and fluid. Chemical sandyris falled to show the expected relation between fix appearance and its chemical composition. The pale fluid bill contained the most solid.

The complete integrity of the biliary passages was demonstrated by roentgenograms taken after the injection of injection of injection.

allowed to close. Recovery was complete except for a persistent mild anorests.

The second case was that of a man forty-two years old. Two weeks before the patient entered the hospital he noted that his sedere had a yellow tint. Generalized jaundice soon developed and the stools became clay colored. Pain was absent, but there was raid loss of weight. Physical examination

disclosed only enlargement of the liver and spicen.

At operation, a greatly enlarged, dark liver was discovered. The gall bladder and ducts appeared entirely normal. Cholecystostomy was performed.

The bile was sterile.

Six weeks of drainage was required before the jaundice cleared up. Roentgenograms taken after the injection of lipicodol aboved a alight delay in the passage of the oil into the duodenum, but there was no evidence of obstruction. Recovery was unevent.

ful Eighteen months later the patient was well.

Five cases reported by other surgeons are cited briefly. One of the natients eventually died of

mbacute bepatitis.

when the approximation of the liver and loss of weight. A study of the bile revealed nothing regarding the hepatic disturbance except that it was not of the nature of a cholangeltis or an infections inpatitis. This problem might be solved by biopsies on the liver. One such biopsy was performed by Chabrol, Brocq, and Portn. The essential lesion was found to be a portal fibrosh. A MASSF F DE GROW, M.D.

Tyrgat: Operative Indications in Hepaticobilizing Surgery (Les indications operatoires en chirurgie hepaticobilizire) Brazelles med 933 xill, 838

There is hardly any disease of the liver that may not require surpical operation at some time in its course. The author discusses briefly the surgery of trauma, tumor and absense of the liver but devotes the greater part of his article to acute cholesyntials, in which he thinks early operation should be per formed that is not cholesyntial, there is no good control to the surperson to respect the results. The arguments for it are based on the supposed danger of operation and the removal of an organ the function of which is not

very well understood. Tytigst points out from collections of statistics that the mortality of early operation is from 3 to 10 per cent while that of late operation is oper cent. Thousands of patients have lived after cholecratectomy without any unfavorsibs clects. Morrover an indeed gall ladder narby recovers entirely and removal of calculi and drainage often lead to chronic infection which finally necessitates radical operation. After operation the patient should be turned over to the intensit for medical and dietetic management, as his liver is atill disease.

In conclusion the author states that in diseases of the biliary tract close cooperation between the surgeon and the internist is particularly important. AUDEXY GOSS MORRAS, M.D.

Åkerlund Å.: Observations in Cholocystograms Made With the Patient in the Erect Position. A New Koentgenological Sign of Gall Stones (Beobachtmen bet Cholocystogrammes is suirechter Koerpentalium; Ein nases romatgenolog isches Gallensteinsymptom). Acts radiol. 1933 zir.

The author recommends serial cholecystograms made with a two displanging, graded compression, and the patient in the errect position especially for the demonstration of small gall stones. Under such conditions large as well as small stones and radio-spaque and thinner stones will manally be found to have sunk to the funds of the gail bladder. Tumor defects do not change their position. Nether do gail stones that are wedged in the upper part of the organization and occasionally the presence of various fromations in the gail bladder or of imprisated calcarcom life prevents the stones from sinking. Sometimes, but relatively seldom, medium-sized transparent gail stones remain suspended within the shadow of the

sall bladder In five cases of very small transparent stones the author noted a new roentgenological algn of cholelithiasis in cholecystograms taken with the patient in the erect position. This consisted of stone defects forming, in the middle part of the gall-bladder shadow a horizontally suspended layer which remained constant in spite of changes in the patient's position and manipulation. Akerland believes its explanation is to be sought in the presence within the gall bladder of bile fractions of unequal concentra tion (specific weight) which do not mix with each other and in the specific weight of the gall stones between the respective weights of these different fractions. He agrees with Eleasz that this stratifica tion of dissimilar bile fractions may be as im portant factor in the pathogenesis of gall stones.

Burrows, H.: An Experimental Inquiry into the Association Between Gall Stones and Frimary Cancer of the Gall Bladder Brit. J. Swi 1933 22, 607

By some clinicians, gall stones are regarded as causal agents of biliary cancer. The foundation for this opinion is the frequency with which calculf are pretent in cases of primary carcinoma of the gall bladder and the alleged experimental production of cancer by the insertion of foreign bodies into the gall bladder or animals. However the frequency of the association of cholelithiasis with carcinoma of the gall bladder cannot in fiself be regarded as proof that either condition has caused the other

The general character of the results obtained in all of the experiments carried by different observers is uniform that is, the introduction of a foreign body into the gall bladder of a guines pig or a rabbit produces at a very early stage a rapid and extensive proliferation of the various histological elements composing the affected viscus. This proliferation is accompanied by a penetration into the contiguous structures the liver and adherent omentum-of the newly formed glandular and other elements derived from the gall bladder. This invasive process has been variously interpreted, some investigators hav ing accepted it, especially when it is accompanied by the development of atypical epithelium, as evi dence of malignancy, and others regarding it as compatible with a benign process. Some have called the condition precancerous. The author does not believe that the microscopical evidence hitherto brought forward to support the view that cancer has been produced artificially by gall stones is im peccable. He states that the diagnosis of cancer in experimental work with animals requires further proofs than those supplied by the microscope. The malignant tumor infiltrates and destroys the neighboring structures, it is amenable to transfer by autografts or heterografts, it forms metastases, and unless treated, it progresses to kill the host. While not all of these criteria are essential to a diagnosia of malignancy, at least some of them should be present. In the experimental work done by the author not one of them substantiated the diagnosis of Cancer

In the study herewith reported gall atones introduced into the gall bladders of thirty three guines plgs did'not produce cancer Samuel Kahn M.D.

Brackertz, W.; Animal Experiments on the Extra hepatic Billary Passages. I Destructive Changes Caused by Pancreatic Fernments (Ther experimentalle Untersuchungen an den extra hepatischen Gellenwegen. L. Pankreasiement schaeden) Destudes Zitzler J Chir., 1932 controll 141

The author carried out experiments on rabbits to clotting the problem of non-periorative billiary periondits. By means of three experiments it was possible to study the acute destruction found in the iamiliar chincia picture of non-perforative billiary peritonitis in human beings. The findings proved that active sterile pancreatic extract alone even when retained in the billiary passages for twelve hours, is not able to damage the untraumatized wall of the billiary passages, but that when infection is added digestive accross of the walls of the billiary

pessages occurs within a short time and biliary peritonitis ensues. Therefore a bacterial infection is of importance for activation of the forment of the pancreatic juice introduced into the biliary passages. The author aummarizes his results as follows

I Neither an active sterile solution of pankreon tablets nor sterile beet pancreatic extract, which is stronger produced any evidence of digestive necrosis on the walls of the billiary passages when it was artificially retained in the billiary passages of the rabbit in quantities of o 5 c.cm. for twelve hours. In the one instance in which digestive necrosis of the walls of the gall bladder appeared following the injection of what was believed to be sterile pancreatic extract it was later found that the extract which had been treated with toluol for twelve hours and used in the experiment was not sterile. When the extract was treated with thloroform before its injection

digestive necrosis was never found.

2 When colon bacilli were introduced with the pancreatic extract into the biliary passages of the rabbit and the common duct was then ligated digestive necrosis of the gall-bladder wall developed in every case, in one instance within five hours and in the others within twelve hours. The necrosis was followed invariably by biliary peritonits with out macroscopic or microscopic evidence of per foration. The extent of the digestive necrosis depended without question upon the fermentative activity of the pancreatic extract. For example the mildly active solutions of pankreon tablets produced only superficial digestive necrosis of the wall of the gall bladder without biliary peritonitis. This fact shows that not all parts of the wall of the gall blad der were involved in the necrotic process as yet, only the mucous membrane being affected. Very active pancreatic extract mixed with colon hadili produced in one instance a very extensive necrosis of the entire gall bladder wall within five hours, while in another case necrosis was found only after twelve bours. Simultaneously with the appearance of the necrosis of the rall-bladder wall, billary peritonitis developed without a microscopically demonstrable perforation. In these experiments the results were the same whether the common duct was ligated or stenosed in some other manner

5. When pancreatic extract and colon bacilli-were injected into the billary passages of the rabbit and the billary passages were not obstructed, no change in the sense of a digestive necrosis was found after either twelve or sixteen hours.

4. It was shown that in the experiments in which the injection of pancreatic juice and colon bedillihad caused an extensive necrosis of the gall-bladder wall, the wall of the common duct usually showed no changes, but occasionally presented similar changes localized at the sate of the infection.

5. Control experiments with injections of sterile salt solution and colorn bacilli yielded no evidence to indicate that it is possible to produce digestive necrosis of the walls of the hiliary passages in this FIREMATE APPRESSING (Z) Holman E., and Rallaback, O. C.: Partial Pancreatectomy in Chronic Spontaneous Hypoghycemia with a Review of the Cases of Hypoghycemia Surgically Treated. Surg. Gysec. & Obst., page 5.

The symptoms of hyperinalinian vary directly in their severity with the immilit excess and the resulting hypoglycemia. They progress from seak mess, across tritability raligability extreme hunger mucular twitchings, wasal defects, unateallies of the galt, excessive perspiration and loss of emotional control to mental confusion discrients tion, convulvive selsures, syncope, and come ending in death. Patients trequently discover that the interation of food may prevent attacks of wrontoms.

Three surgical conditions have been found responsible for insulin excess carefnona of the later, of Langerians, a benign tumor of the later, and overactivity of a normal appearing pancress comparable to hyperthroidism due to hyperplasta of the thyroid. The authors review eight cases of insulin arress collected from the literature and

report a case of their own.

Their own case was that of a man thirty-one years old who had been compelled to stop work on several occasions during the past year and a half because of pronounced weakness. After physical labor he became mentally confused and disorientated, often staggered and sometimes lost consciousness. After taking a cup of hot choolate he recovered immediately. On one occasion he falled to awaken in the mornhar and could be a roused.

only after food was administered. The attacks became increasingly more frequent until finally they occurred every two or three weeks

Physical examination was negative. The stracks could be easily provoked by depriving the patient of food. During an attack the blood sugar was about 38 mgm. per 100 c.cm. After restoration of consciousness by the administration of food, it mue to

128 mem, per 100 c.cm.

Thyroid extract and pituitary extract were given without benefit. Laparotomy revealed a naznal appearing pancreas in which no abnormality could be palpated. An exchaed Sem, portion of the till of the pancreas showed no anatomical changes. On the slattenth postoperative day a mass appeared in the epigastrium. Drainage of the mass required to the particular of the particular to the particular to the containing numerous bits of necrosic pancreasic tissue. After the operation the blood sugar remained low but the patient became able to perform a day a work without leaving it to ear.

work without leaving it to eat. In none of the three reviewed cases in which as adenoma was found was the tumor more than a denoma was found was the tumor more than the tumor more than the tumor three believe in highly probable that in the cases in which reserves of the pancreas aboved no tumor formation the pathological changes were elsewhere in the glass of the pancreas aboved to the pathological changes were classified in the pathological changes were elsewhere in the glass of the pathological changes which is the pathological changes are the pathological changes and the pathological changes are the pathological changes are the pathological changes are the pathological changes.

STANGEY H. MIDSTER, M.D.

GYNECOLOGY

TTRRUS

Graves, W P: The Detection of the Clinically Latent Canter of the Cervix; with a Report on Schiller's Lugol Test Surg., Gynes & Obil 1933 lvi, 317

The combat against cervical cancer during the last thirty years has established the fact that this con dition may be cured by the means at our disposal but that the chances of cure are directly proportional to the timeliness of the attack. During the period cited we have been treating and studying cervical cancer in its advanced stages. Only a few incipient cancers have been detected and consciously treated, the discovery of a cancer in its early stages being usually accidental. And yet, since the incidence of indipient and terminal cancer is identical, patients must repeatedly be on our examining tables who harbor malignancy which is invisible to the keenest eye and intangible to the most sensitive touch.

The treatment of advanced cervical cancer by surgery, radiotherapy and the use of colloidal metals has reached an impasse.

In the search for early cases it must be recognized that the life history of cervical cancer averages from ten to twelve or more years and includes a long imitative stage of chronic cervicitis and a shorter though still protracted, stage of clinical latency during which the cancerous change, though actually present, does not attract the attention of the patient or her attendant. Until recently our best method of discovering cancer of the cervix in its latent stage has been timely repair of the inflamed cervix with blopsy Many unsuspected cancers have been discovered in this way However, the procedure has frequently led to error as the pathologist unfamiliar with the changes of incipient cancer may miss the diagnosis or the operator, with nothing to guide him may miss the cancerous area entirely in removing the tissue for biopsy The invention of the colposcope by Hinselmann has proved of great aid.

It is evident that a clearer knowledge of the histological appearance of early cancer and a simple test by which the latent area may be accurately located for blopsy are essential. Schiller's effort to meet these requirements stands pre-eminent. From his histological studies Schiller drew the following

conclusions

I Cancer of the cervix starts in the squamous epithelium of the portlo near the os and at first spreads laterally i.e., superficially

2 It starts in the unbroken epithelium and not in an ulceration

3. Histologically the chief factors determining the diagnosis are (a) the oblique line of demarcation between the normal and abnormal areas, and (b) the

anaplastic atypicality and polymorphism of the abnormal cella.

However, this histological revelation of the earliest appearance of cancer would be of little practical importance without the ability to discover the local tion of a process not distinguishable by sight or touch. To meet this difficulty Schiller devised an ingenious test based on the discovery by Lahm that the upper layers of the normal epithelium of the portio and vagina contain rich masses of glycogen which disappear when the epithelium becomes cornified and changed by cancer. In the normal liv ing tissue the glycogen of the upper layer of cells is stained in a few seconds a deep mahogany brown by iodine in watery solution (Lugol s solution) superficial area of early cancer, being devoid of glycogen, does not take the stain and stands out startlingly white or pink against the deeply colored almost black background of the normal tissue.

During a nine months period in which the author used this test on all cervices examined in the operating room it revealed three early cancers which in respect to the Lugol test and the microscopic findings, corresponded to Schiller's dicts. In none of these cases was there tactile or visual evidence of cancer, and in the biopsy there was no guide to the location of the cancer except the Lugol test. Of 553 clinical cases, Schiller found the test positive in 140 and discovered an early cancer in 19 of the latter

The test appears to be completely reliable when it is clinically negative, that is to say when all of the tissues take the normal stain. It is therefore specific for determining the absence of cancer of the portio and vagina. The examiner must be familiar with conditions that obscure the test. The stain does not take on glandular epithelium such as that of the endocervix or on the epithelium of an adenocar choma. Ulcerations and crosions do not take the stain as they have no epithelial covering. Traums produced by tenacula or scrubbing with gause prevents normal staining Clean living granulations, hyperkeratosis leucoplakia, luetic lesions, and exposed areas in prolapse do not take the stain A film of mucus, douche water and blood obscure the resction.

In conclusion the author says that Schiller's test is specific for cervical cancer and is not adapted to other superficial cancers such as those of the vulva and the skin of other parts of the body

ALICE F MAXWELL M.D.

Warren S.: Studies on Tumor Metastasis. I Dia tribution of Alexastases in Carcinoma of the Cervix Uteri Surg Gynec. & Obst., 1933, lvi 742 The distribution of metastases found at autopsy in 1 050 cases of malignant disease was studied. Only those autopsy protocols were used which afford ed a satisfactory gross description and at least a fair clinical history No case was included without a review of the microscopic alides. There were 132 cases of carcinoms of the cervix uteri. The average duration of low-grade epidermoid carcinomata (two and three tenths years) is twice that of high-grade epidermoid carcinomate and half again that of epi dermoid carcinomata of medium mallenancy

The author emphasizes that histological grading is of but little value in the estimation of the pros nosis in individual cases. Such factors as the extent of the local lesion, the presence of metastases, the age of the patient, and the type of treatment must be given due weight. Because of the tendency of highly malignant tumors to metastasize early and widely and to infiltrate deeply the results of radium breadlation of such tumors are very often as number isfactory as those of any other treatment. difficulty lies, not in failure of the irradiation to affect the tumor but in failure of effective irradia tion to include all of the malignant cells. In the cases reviewed the power of metastasis was most pronounced in tumors of Grade v.

There is a close parallelism between the degree of malignancy and the total number of sites of metastasks of the tumors of given grade. Carcinomata of high malignancy average more than 3 sites of metastasis apiece, whereas those of low mallenancy

average less then I aniece.

Metastasis to bone is unusual in cancer of the uterine cervix, but in the cases reviewed it occurred times twice in cases of tumors of Grade a and t times in cases of tumors of Grade 2 The metastases were all of the osteoclastic type.

Eighty per cent of the metastases occurring after treatment appeared within one year. The length of life after treatment in most cases was short.

ROLAND S. CHON M D

ADNESAL AND PERIUTERING CONDITIONS

Plant, A.: Ovarian Stroma. A Morphological, Pharmacological, and Biological Examination. Am J Ohn. & Gyme, 1933 Exv 351

The author reports three cases of ovarian strums. The specimens had the character of an overfan teratoms. They all contained different tismes such as bone, nervous tissue, and mucinous glands. Pseudomucin was absent, and there were no histological signs of ovarian cystoms. Cystomats occur very frequently in the overy and are often asso-clated with dermoid cysts. Therefore it is not surprising to find a cystoms and a teratoms such as an ovarian struma in the same ovary. In the second and third cases reported by the author almost the entire tumor consisted of thyrold tisene. The thy rold there, the mucus producing portions, and the carcinoma-like solid tumor were found side by side and even intimately mixed.

Chemical examination proved the thyrold char acter of the ovarian atruma by demonstrating a

high iodine content. The Hunt acetonital test showed that ovarien strums has the pharmacological effect of thyroid in proportion to its iodine content. The tadpole test also showed the tumors to contain thyroid substance.

In the discussion of this report, FRANK stated that the carcinomatous portion of such a thyroid strums need not cause the clinician great alarm

even when ascites is present. MORRECH said that he had tested for lodine he three cases, but was unable to demonstrate even

GETST expressed the opinion that the condition is more frequent than is indicated by the number

of reports in the literature.

EDWARD L. COROTEL, M.D.

Buzzi, B.: Ovarian Dysfunction Hypoplasis, and Hyperinvolution and Their Relation to Tumers of the Fernals Genital Tract (Distracted ovariche, ipoplazia ed iperinvoluzione nel lore rap porti cul tumori dell'apparato sessuale (campielle). False symmetral 1932 mile, \$39

The author presents a clinical and statistical review of 443 cases of genital lesions, 242 observed in the Clinic at Parma and sor at Pavia in the period from 1923 to 1930. The lexions studied were as follows fibromyomata, 221 (subserous or subpentoncal, 81 Intramural, 118 submucous, 21) cardnomats of the portio and of the cervical canal, 50 adenomata and carcinomata of the body of the uterus, 17 tumors of the adness, 130 and multiple tumors, 25 Many of the Interesting lesions are

shown by photographs of the gross specimens. From his very detailed study Bund concludes that in cases of tumor of the female genital tract the local constitutional factor whether it is anatomical or functional, convenital or accounted, varies in importance with the type of the neoplasm. In the cases of uterine fibromyomats there were frequently signs of overlan hypotunction and dysfunction dating from the age of puberty and the incidence of sterility and uterine hypoplasis was high. These facts led Burnl to conclude that the ovarian changes found so frequently in cases of fibromyoms represent degenerative changes antedating the develop ment of the tumor Fibromyoma occurring with senile hyperinvolution is very rare. Burd found no case of hyperinvolution in women of the childbearing age.

When fibromyomata develop in the uterl of sexually healthy multipare it is easy for them to take on a submucous growth (probably because of the greater size of the cavity of the oterus and the greater laxity of the uterine tissues) whereas in nulliparat, especially those with hypoplasia, they tend to develop toward the external surface and become subscrous or subperitonesi.

In cases of ovarian tumors the incidence of hypoplasia and dysfunction of the overies dating from puberty is quite high. It wartes with the type of tumor. It is highest in cases of papillary tumors and high in those of dermoid cysts. In cases of ovarian crosts the incidence of hypotunction and dystanction dating from puberty is high but the incidence of hypoplasis is about equal to that neually found un ordinary genecological material.

In cases of cancer of the curvix and corpus of the aterus true hypoplasia is rare, but the incidence of

hyperinvolution is noteworthy

Buszi believes that congenital endocrine factors or factors acquired before puberty which produce hypodevelopment or dynfunction of the genital system may predispose to the development of uterine fibromyomata and proliferating ovarian tumora. The high incidence of sterility in women with fibromyomats is probably due to the same cause. In women whose general system is constitutionally sound the exaggerated and precocious involution of the uterus is an index of the exaggeration of the endocrine stimuli which act after lactation and after the menopause may predispose to or be sasociated with the development of cancer This difference of behavior may explain the well known possibility of regression of fibromyomata after the menopause, a phenomenon which has never been noted in carcinoma Eugene, T Lanor M.D.

Meigs J V and Hoyt W F: Rupture of the Gensiène Folicie, the Corpus Luteum and Small Folicie, or Lutein Cyats Simulating Appendictus Am J Obs. & Lynn, 1933 xxv 531

When in a case presenting symptoms suggestive of appendicities the patient is a young woman who has not borne children, has not had an abdominal operation, has not had an abdominal operation, has auffered previous similar attacks, and the physical signs do not seem consistent with the severity of the pain and the endetness the possibility of nupture of the ovary are sudden onset of pain, a low temperature, a slightly elevated pulse and a low leuroscyte count out of proportion to the pain. An intelligent interpretation of the history and physical findings in cases of ovarian rupture is very important as rest in bed and careful observation may prevent an unnecessary operation for assumed mild acute appendicitis.

EDWARD L. CORNELL, M.D.

EXTERNAL GENTTALIA

Hibbert, G.F. The Significance of the Streptococ cus in Trichomonas Vaginalis Vaginitis. Am. J. Obst. & Gyaco., 1933 XXV 465

In the cases of many women the trichomonas vaginalis may be present in the vaginal secretions for long periods of time without producing acute vaginitis. In a large percentage of the cases in which it is present with acute vaginitis there is an associated predominant growth of a gram positive non hamolytic strepteococcus in short chains. This type of streptococcus is expable of producing active vaginitis in the absence of the trichomonas vaginitis.

When a specific streptococcic bouillon filtrate is applied to the vagina repeatedly the active growth of the organisms in the vagins die off and the active vaginitis subades in spite of persistence of the protozoon in the secretions.

The technique of the preparation of the bouillon is described EDWARD L CORREL, M.D.

MISCELLANEOUS

Schauffler G C. and Kuhn C. Information Regarding Gonorrhora in the Immature Female. Am J Ohn & Gyma 1933 XXV 374.

The difference in the pathogenic action of the geonococcus on the gental organs of female infants and small children as compared with adults is due to mechanical and developmental differences between the immature and mature female genitalis. The glands of Skene and Bartholin do not achieve sufficient complexity to harbor infection until about the age of puberty. The racemose glandular system of the endocervir is very alow to develop frequently being apparent only as acattered rudimentary blunt, glandular crypts up to as late as the fifteenth year. The immature vagins is merely a potential cavity beld in a state of constant closure by its elastic and muscular coat and replete with stagnant crypts and ruge. Its walls are held tenacionaly approximated, in marked contrast to the flattened gaping vagina of the parous woman.

The contracted cryptiform rugeose vagina of the immature female constitutes an ideal harbor of in fection. The vaginal cervix is the site of deep pleats and folds similar in all respects to those noted throughout the remainder of the vaginal wall. Thus the vaginal cervix is not exempt from an infection fovolving the entire vaginal wall.

Douches, instillations, and injections have been used empirically and ineffectually for many years. These measures, which are mildly effective in certain involvements occurring in the adult, are grossly inadequate to meet the requirements in any but virtually self-limited cases. The use of plain an hydrous lanelin incorporating an appropriate con centration of an effective antiseptic is advised. The authors use I per cent silver nitrate. The ointment should not be warm as firmness facilitates distention of the vaguna with the use of mild intra vaginal pressure. Moreover cold ointment is more easily and completely retained and has the highest possible fluid affinity which makes it a highly effective vehicle for carrying the antiscptic into the moist vacinal wall. EDWARD L. CORNELL, M.D.

Argentino, A.1 Morpholodical Research on the So-Called Presearch Nerre with Regard to III Practical Application (Ricerche mortologiche sal cosidetto nervo presarrale con riguardo sile applicazioni pratiche) Arch di ette. a grecciosi 1933 31, 21

In 1912 Stricter reported that both colliac and hypogratric plexuses are to be seen in embryos of

16 mm. They differ from those of the adult only in the fact that cell differentiation is incomplete. In 1911 Bromann found that in embryos of 70 mm, large groups of ganglion cells are arranged ventral to the abdominal sorts. In 1920 Plachel reported the development of a parasympathetic underso of the cord extending from the third lumbar segment to the cavelal templation.

From the standpoint of comparative anatomy the author finds it difficult to establish an exact correspondence between the formation in man and in animals, largely because of the confusion in the nomenclature. It seems to him certain however that such a correspondence exists how with a difficult of the confusion
ference between the male and female.

The author a studies were made on sixty subjects

—fifty adult females and ten newborn infants of both series. It was found that the hypogratic plexus may appear in the following four forms x. A large-meshed nervous network formed by the conflorers and bifurction of nerve branches and

the confinence and historisation of nerve branches and adherent to the anterior surface of the sacrum by means of connective tissue.

2. Two lateral branches approaching the median

line at the fifth lumber vertebra, running together, and dividing again on the body of the first sacral vertebra.

3 Three roots united by connective these but easily separated

4 A true single nerve formed from two cords of the lateral roots and from the median root and lying in front of the bifurcation of the large vessels.

Only macroscopic examinations were made. The parasympathetic was studied in ten fetuses, but this number is not considered sufficient for a statistical report.

In experiments carried out on dogs in 1928 Caporale found that resection of the hypogastric plenus resulted in dilatation of the bladder.

From an experimental atody of pelvic pain in women the author was unable to draw any conclusions.

On the basis of morphology Argentino concludes that only the transperitonsal routs can be effective, and that the operation of choice is resection of the prescral sympathetic nerve. However even when this is done there still remains a sympathetic communication by way of the spermatic plenus, the urcters, the pelvic plenus, and the lateral roots of the parasympathetic nerve. A. E. Tarr, M.D.

Petri, H. H. W.; Death from Air Embolism Follow ing Criminal and Therapautic Interference with the Genitalia (Uther den Tod durch Laftembolic nach kriminellen und therapartischen Eingriffen in die Genitalien) 1015 Leiping, Dissertitos.

This article is based on 32 cases of death from air embolism induced by criminal and therapeutic manipulations of the genitalia. Some of the cases were observed by the author himself and others were collected from the literature. Most fre quently the embolism occurred at the time of the interference, but there were a instances of protested air embolism. Among 60 cases of criminal abortion occurring in a period of three years which were reported by Strassmann there were 3 desiths which were definitely the result of acute sit embolism, and 1 death from questionable protracted air embolism. Other examples from the literature were 1 coss reported by Richer 1 by you Sury 2 by Walcher 1 by Wedsenrieder and 4 by Member.

In some cases the cerebral form of air embolism dominates the clinical picture, as brought out by Strammann, Schmidt, and Walcher. It is assumed that the occurrence of cerebral six embolism requires

an open foramen ovale

All but 1 of the cases reported were case of criminal interference, and it seemed that the usual procedure was the injection of a finith by means of a rubber bulb syringe. The embolism was produced by the residual air in the careleasly filled syrings which was forced into the uterus under high presure. However air embolism may result also from obstetrical manipolations or therapeutic measures as in the cases of placenta previa reported by Kramer Krukenberg, Heack, Boss, Lesse, Zora, Huebl, Schulz, Vavra, and Each.

The first proved case of air embolism following a creatrean section was reported by Kucatner in 1005-Other cases have since been reported by Fink Latako, Dececher and Rau. In 128 cervical county an sections at the St. Gall Obstetrical Institute there was only I death ascribed to air embolism Van Gioppo reported a case in which air embolism occurred on the second day following a forcept operation. In another case autopsy showed that death was caused by the entrance of air into the opened veins about the bed of a myoma which had just been enoclested. No deaths from air embolism following the pertubation operation of Selbeim bave been reported, but Engelmann and Schallehn have observed characteristic symptoms of embolism such as collapse, cyanosis, labored breathing, and small, irregular pulse, after this procedure.

The author cfros from the literature also y cases in which suddem death occurred from sire embolism following manipulation of the urinary bladder in the first case the sir entered directly into an user ated vein. In the 1 others fatal sir embolism followed the injection of sir into the bladder. Experimental work done by Zhenke, Fischer, and Richter on rabbits, by Harr, Pirogolf, Laboris, Miuron, Uterhard, Gaertner Ponnet, and Delore does, and by Chaveau, Richter Lions, and Delore does, and by Chaveau, Richter Lions, and the first on homes has demonstrated that when the different control of the contr

In the Trendelenburg position the femoral and hypogastric veins may also aspirate air

Schallehn studied the extirpated human uters to determine the amount of pressure necessary to demonstrate permeability of the tubes, and, at the same time, the amount of pressure necessary to induce entrance of the air into the venous system. He discovered that even when the tubes were per meable the air under pressure of 120 mm. Hg or higher would bubble up from the submerged uterus, not only from the surfaces immediately beneath the fornices, but also from deep down about the internal ca. This leakage of air occurred by way of the sper matic veins and the great vessels of the uterus. In r uterus the air penetrated the venous system when it was injected under a pressure of only 70 mm. Hg In the cases of carcinoma of the portio no air could be forced into the venous system. Following curet tage, however, air entered when under a pressure of from 100 to 120 mm. Hg. It is assumed that when the air enters the circulation rapidly the minimal fatal amount in clinical cases is 40 c.cm.

Ziemke gives the following explanation for the protracted form of air embolism. The lower pole of the annolotic arc is at first loosened by the air containing injected finid only over a small area and without the opening of a large number of veins. Expulsion panns, contraction of the pelvic muscula ture, and movements of the body result in partial separation of the placenta from the wall of the uterus and the opening up of the extensive venous field of the placenta. As a consequence, the sir contained in the cavity of the uterus enters the inferior vena cave and the right side of the heart in large amounts.

Walcher assumes that the air enters the veins at the time of the intrauterine injection, but is held up at first in the tortuous veins of the pelvis until later, when it is mobilized by muscular action, par ticularly that of the pelvic floor, and is carried to the right side of the heart.

Amreich assumes that when air embolism occurs in cases of placenta practia the air which entered the uteroplacental veins at the time of the operation is aspirated into the uterovarinal plexus and the uterine and hypogastric veins. Opits states that when air penetrates between the uterus and the placenta during the preparations for version in cases of placents previo, the buttocks of the child may press the placenta against the wall of the uterus and thus force the air, which has become caught between the placents and uterine wall, into the vessels. It is generally assumed that the death which results from air embolism originating in the uterus is a cardiac death. To prove that air embolism was responsible for death it is necessary to perform an autopsy immediately

The first observation of air embolism was reported in 1806 by von Verrier who noted the penetration of air into the venous system of a horse during phle botomy. A few years later Beauchaine observed a case of air embolism following the penetration of air through a hole in the subclavian vein during the extirpation of a tumor of the clavicle. Lionet reported air embolism originating in the uterine veasels. A similar case was reported by Olshausen in 1804. In 1804 Freudenberg called attention to the dangera of air embolism.

HAUMANN (Z)

ORSTETRICS

DESCRIPTIONS OF THE COMPLICATIONS.

Solomona, B.: The Prevention of Maternal Morbidity and Mortality Irisk J. M. Sc., 1935, N. 53 p. 171

Maternal mortality and morbidity have been the subjects of much investigation, but are still high because of, among other factors, ignorance on the part of the members of medical profession. Unless every death associated with childhirth is analyzed carefully statistics are very misleading, in 8,333 labors on an intern service which are reviewed by the author there were 36 dettes, a mortality of 0,72 per cent. The most common cause of death was expost, which was responsible forceton facilities. On the common cause of death was considered in the common cause of the common carefully was responsible forceton facilities. On the common carefully was composited to the common carefully was composited to the common carefully and the
Stux, S.: The Etiology of Cervical Placentm (Zur Actiologie der cervicalen Placenten) Hegy Verreitz 1012 i. 70.

The works of Stiere have proved without doubt that the uterus consists of three parts. The cervis may be considered to extend only from the lower boundary of the asthmus to the external uterface of Therefore only twenty three of the forty three bitherto published cases of cervical placents may be designated as such, and five of these must be con

sidered cases of dissecting cervical placents. The author reports two cases of true cervical insertion of the piscents. In one, the condition re-sulted in miscarriage in the third month and in the other in the sixth month. The cervical attachment was proved by digital separation. The placenta extended from the external uterine os to the isthmus and was organically connected with the wall of the cervix. Palpation of the uterine cavity showed it to be entirely smooth, without any evidence of at tachment. Histological examination of the cervical tiespe demonstrated the penetration of chorionic villi into the wall of the cervix. In both cases sudden hemorrhage with miscarriage occurred without warning. In spite of immediate medical attention the loss of blood almost proved fatal. After successful treatment of the extreme anemia and removal of the adherent cervical placents recovery was smooth. Both women had pronounced hyperthy roldism. The disturbance of the endocrine balance caused an increase of the sympathetic tone. The lat ter produced an increase in the peristalsis of the uterine corpus and dilatation of the uterine os. As a result of such changes the fertilized ownm reaches the lower portion of the uterine cavity quickly and clines to the isthmus or the cervix, or leaves the uterus before it is ready for nidation. Similar results may be produced by an increase in vagus tone, which causes relaxation of the uterine musculature and earlier of the uterine on

Therefore the tonus changes of the sympathetic corros system are of fundamental Importance and only in placents previa, but also frequently in case of habitual abortion and sterility. A study of all cases of these conditions from this point of view sill perhaps lead to better treatment and efficient prophylaris. E. Gozussessa (6).

Reshi: The Treatment of Placents Pravita it the Streathing Obstetrical and Gynecological Clinturing the Years from 1926 to 1922 and its Results of the Stream of the Stream parent is Changes de Gynecologie et d'Obstringe de Stream bourt pendies de sancter 1900 è 1931 et se 1915 solidat). Just des destre de greice de les 1931 strill 100.

During the thirteen years from 1990 to 1993 tot cases of placents previa were found in a series of 18,307 deliveries at the Strassburg Obstetrical and Gynecological Clinic. Accordingly the incidence of placents previa was 1 case in every 150 de-

liveries or o 55 per cent.

The choice between delivery by the vaginal or abdominal route depended upon the condition of the patient. Vaginal methods of delivery had a maternal mortality of 13 per cent and a feril mortality of 57, 3 per cent. The obstetical nethods employed were rupture of the membranes, 8 cases, introduction of a balloon after rupture of the membranes or perforation of a central placenta previa, or cases fluration-Hicks version, 11 cases version and extraction or forceps delivery after complete dilatation, 18 cases and the Delmas procedure,

Surgical methods of delivery had a maternal mortality of a 8; per cent and a fetal mortality of so per cent. The following surgical methods were employed Duchresen a vaginal hysterotomy 1 case chamical crossress section, a cases low constress section, 32 cases and subtotal hysterectomy after low crestrean section, a cases. In the author's opinion, low cervical crearean section is the surgical procedure of schoice. The morbidity following surgical intervention was somewhat greater than the morbidity following delivery by obstetrical methods, but Reeb points out that this was due in part to the fact that surgical procedures were used in the more serious cases. He believes that cressrean sec tion should be performed for placenta provis more frequently than has been the custom in the past, but

he does not favor its application to all cases.

The type of the insertion and the condition of the patient are important factors to be considered in

the choice of intervention. Pre-operative blood transfusion should be done in all cases in which there has been a marked loss of blood. The indica tions for surgical treatment are (1) severe hæmor rhage regardless of the type of placenta prævia (2) rigidity, impermeability and lack of effacement of the cervix, and (3) a hving fetus (fetal death is not a contra indication if the hamorrhage is profuse) The contra indications to surgical interven (1) the possibility of easy and rapid delivery after rupture of the membranes and (2) a non viable or dead fetus in the absence of profuse hemorrhage. Infection, vaginal tamponade and reneated varinal examinations do not contra indicate surgical intervention.

HAROLD C MACK, M D

Keller R. Results of the Treatment of 180 Cases of Piscenta Przevia Observed at the Strassburg Maternity Hospital in the Period from 1926 to 1932 (Résultats du traitement de 100 cas de placenta pravia observés à la Maternité de 1020 to 1022) Bull Sec Cobst at de grate, de Par 1913 XXII, 118

Among 10 808 obstetrical cases at the Maternity Hospital at Strassburg during the years from 1920 to 1932 there were 100 cases of placenta praevia. In 88 cases delivery was effected by the vaginal route with a maternal mortality of 6.8 per cent and a fetal mortality of 54.5 per cent, and in 12 cases it was effected by cresarean section with no maternal mortality and a fetal mortality of only 8 3 per cent.

In 26 cases of central placenta przevia with delivery by the vaginal route there was a maternal mortality of 15.4 per cent (4 deaths due to acute hamorrhage) and a fetal mortality of 84.6 per cent. The author is of the opinion that if the indication for casserean section had been extended to include all cases of central placenta przevia the maternal deaths from acute harmorrhage would have been prevented and the fetal mortality would have been considerably lowered.

In 40 cases of lateral placenta prævia in which delivery was effected by obstetrical procedures there was a maternal mortality of only 4.9 per cent and a fetal mortality of 50 per cent. The author believes that conserve section might have saved r mother who died from harmorrhage, although the mortality of 40 per cent corresponds closely to that of caracrean section in general. He is of the opinion also that caesarean section in this group of cases would certainly have lowered the fetal death rate. He favors the more frequent use of cresareau sections in such cases for fetal indications.

In 22 cases of marginal placenta prævia obstet rical procedures gave good results. There were no maternal deaths and the fetal mortality was 22 7

Since it is not always possible to make a definite diagnosis of the type of placenta prievia the choice of treatment to be employed must be determined from the amount of hamorrhage and the general condition of the patient. The author concludes

that an extension of the indications for casarean section would result in a decrease in the maternal and fetal mortality. However, he does not favor the indiscriminate use of this operation in all cases of placenta provia as in from 20 to 30 per cent of cases delivery will occur spontaneously after artificial rupture of the amniotic sac with results which compare favorably with those obtained in normal cases. The relative infrequency of casarean section in the cases reviewed is explained by the fact that this operation was never performed at Strassburg for placenta przevia prior to 1926

HAROLD C MACK M D

Mahon R.: Should Fibromata Becoming Necrotic During the Course of Pregnancy Be Operated Upon? (Faut Il opérer les fibromes nécrobiosés au cours de la grossesse?) Bordeaux chir 1933 No 1 8

Most surgeons are agreed that fibroids which be come necrotic during the course of pregnancy should be treated by myomectomy or hysterectomy Many obstetricians are of the same opinion but the author maintains that the majority of women with such tibroids can get well without operation and will not even suffer spontaneous abortion or premature labor if they are treated expectantly with bed rest and the application of ice bags.

Characteristically fibromata may hypertrophy soften and then become necrotic in the course of pregnancy Judging from statistics such as those of Pinard (84 of 14,000 delivenes in six years at the Baudeloque Clinic complicated by fibromata) this complication is rare. However the author believes that it is far more common than is suspected often escaping diagnosis because of the absence of symptoms. In support of this opinion he quotes Leroux and Barthélemy Of the 84 patients whose cases are included in Pinard a statistics only 4 required surgery 5 had a spontaneous abortion 13 had a premature delivery and 66 had no symptoms at all

Mahon believes that even complete necrosis of a fibroid can occur during pregnancy without causing clinical signs. He cites a case reported by Sureau and Job, that of a primipara thirty-one years of age in which the presence of a fibroma was diagnosed early in pregnancy and at term a low carsages n sec tion was done because of failure of the head to en Operation revealed a completely necrotic mass containing yellow putrid liquid although the patient had no symptoms referable to a necrotic tibroid during the gestation. Mahon cites also a case of his own in which a necrotic fibroid was found at hysterectomy for placenta provia at term al though the patient had complained only of vague abdominal pain in the third month of pregnancy He believes that necrotic fibromata become ab sorbed or calcified after delivery without causing symptoms.

While Mahon has observed also many cases (he does not state the number) of necrous of a fibroid during pregnancy in which the condition was ac companied by pain tenderness and elevation of the temperature, he has never seen a grave complicathen. He cites the case of a priminare who had attacks of pain disenced as due to a necrotic fibroid after two and a half three and a half five and saven months of presnancy. Each attack was relieved by hed rest and the application of ice

The author strongly condemns redictherapy for fibromata during pregnancy as it is dangerous to the fetus and itself favors necrods. He characterizes abortion as a foolish procedure as it saves the pathological legion and destroys the normal pregnancy He states that if any intervention is to be under taken it should be surgery. The only operations to be considered are hysterectorny and mynnec Hysterectomy has a mortality of a s per cent and sacrifices both baby and otenia. Myomer tomy allows continuation of the pregnancy but has a maternal mortality of from 4 to 5 per cent and a fetal mortality of from 15 to 25 per cent. Mahon calculated the fetal mortality by averaging the mortality rates reported by Turner Bar Brin deau, Cotte, Creyssel and Labev Denis Leroux and Barthelemy. He states that, according to his experience, medical management with bed rest and

He concludes with the statement that the major ity of women with symptoms of necrosis of fibroids during pregnancy get well under medical management and that myomectomy or hysterectomy should be done during premancy only when there are menacing symptoms such as those due to tor alon of a pedanculated fibroid or threatened run-IOMERN T GAULT M D

the application of ice has no mortality

ture of the uterus

LARGE AND ITS COMPLICATIONS

Phaneuf L. E. The Scar of Low or Carvical Cassarean Section. 4m J Surg out ax 1

The low or cervical creamen section is becoming increasingly popular. It results in a stronger and better scar and a followed less frequently by rupture

in subsequent pregnancies and labors

In 1011 the author reported 418 consecutive cervical aections. These included 105 repeated operations. One hundred and one of the scars were solidly healed and could not be identified by the naked eve. Of the four scars which were defective. were very thin and I which had been extended in the uterine body because of large size of the fetus, was solid in its cervical part but thinned out for an area measuring 25 by 25 cm. in its corporeal portion. In the series of 418 cases there were no ruptured scars. Eleven women had 14 pelvic deliveries.

Four of the women who had cervical caratean sections were subsequently subjected to hysterec tomy. Two of them had I casarean section with a longitudinal incision in the lower segment 1 had had a cervical cresarean sections, the first with a inneitudinal incision and the second with a transverse incision and 1 had a vaginal cresarean section and then a transverse corvical occarean section. Macroscopically, the cervices showed from and satisfactory healing. Microscopically it was found that the healing had taken place by sear these and there were no week snots in the incisions

DIEDDEDITIE AND ITS COMPLICATIONS

CHARLES F. Dr. Book M.D.

Perah, L. N., and Oldfield C.: Presperal General Peritonitie. J Obs. & Greec Bril Emb 1011.

Pyrab and Oldfield state that general peritoritis is one of the most serious catastrophes which can be fall a woman during the purmerium. In every case of puerperal infection the possibility of the development of peritonitis must be considered. If the infection of the peritoneum extends from the disphrama to the nouch of Douglas and from Join to Join when it is first diagnosed the patient will not recover However, if a diagnosis of spreading peritoritis be made before the peritoneal involvement has become general, an immediate operation for drainage of the abdomen offers a fair chance of recovery. The anthors believe that the incidence of memoral peritonitis is not sufficiently recognized by physiclans, and that this condition is the most common cause of death in nuemeral fever

Thirty-six cases of general peritonitis occurring in the puerperium are reviewed. Twenty-five were fatal. In 7 cases operation was not undertaken because the patient arrived at the hospital almost moribund Six patients survived less than twenty

four hours after operation. The cause of peritonitis during the puerperium is a streptococcal infection of the senital tract occurring at or about the time of abortion or parturition. Is hospitals, injection by contact with an already infected case is sometimes responsible for a series of cases of increasing virulence. The virulence of an organism which is transmitted in succession through several individuals of such a series gradually increases from case to case. In the first patient the infection will be mild while in the second rigors may occur In the early cases recovery results. In later cases the infection leads to septicemia which is often accompanied by peritonitis and is fatal or followed by re covery only after a prolonged filness. Poerperal peritonitis is closely related to delivery by forceps and other intra-uterine manipulations. In nearly one-third of all cases of puerperal peritonicis there has been some intra-uterine interference.

Peritonitis is a more frequent complication of labor than of abortion. The infection organism is more often the staphylococcus and bacillus coll than the streptococcus. Infection with the former causes a localized peritonitis rather than a diffuse infection of the abdominal cavity In cases of abortion, localization of the infection in the pelvis is facilitated when the uterus is situated in the pelvic cavity

In early cases in which the peritonitis develops during the first four days after labor the peritoneous is invaded by highly virulent organisms transmitted from the infected endometrium by wav of the lymphatic plexuses in the utenne wall. In such cases the condition runs a very rapid course charac terized by severe toxemia and usually by the absence of local inflammatory lesions in the pelvis Frequently a bacteremia is present. The prognosis is grave. In cases in which the pentonitis develops several days or weeks after parturition, local in flammatory lesions in the pelvis, situated in the wall of the uterus, the broad ligament or the ovary are very common. Peritonitis is set up by the sudden rupture of an abscess in the pelvis, alow permeation of the invading organisms through the wall of the abscess to the peritoneum, or bacterial invasion of the peritoneum by way of the uterine lymphatics There is no bacteremia. In cases of this group the prognosis is more hopeful than in cases of early peritonitis.

In the most acute cases of peritonitis the endometrium shows very little evidence of inflammation, In less severe cases a putrid endometritis may be found, especially when a mixed infection is responsi ble for the condition. In cases in which the peri tonitis has been caused by extension from a local lesion two or more weeks after labor, the endometrum presents an almost normal appearance. The uterine muscle is softer than normal. The lymphatic injection of the uterus is often manifested by microscopic areas infiltrated by round cells. It is not uncommon to find a macroscopic abscess either at operation or autopsy. An abscess in the aterine wall is nearly always situated at one or the other cornu This is readily explained by the lymphatic distribution. The peritones coat of the uterus is often colored with a green, adherent layer of puru lent lymph which, when peeled off, leaves a bleeding shappy surface. The broad ligament is often altered while the fallopian tubes and ovaries are injected and often slightly enlarged and cedematous. The tubes are never scaled, and in none of the cases re-

viewed was there a pyosalpinx in the puerperium.

The peritoneal inflammation varies greatly. In the most severe cases the serous coat of the intestine (particularly that of the colls in the pelvis and the lower abdomen) is more injected and is stippled with tiny specks of subperstoneal harmorrhage, while here and there are deposits of fibrin and lymph. There is either no pus or only a small amount of turbid blood stained fluid in the pelvis. Such a condition denotes an infection by highly virulent organisms with only the feeblest of reactions on the part of the perl toneum. It is almost uniformly fatal. In the ma fority of cases the formation of pus is more obvious. The pus may be seropurulent fibrinopurulent, frankly purulent or of a gummy character Its character depends on the virulence of the organism and the duration of the peritonitis. The pus spreads upward through the abdomen from the pelvis, collecting in pools here and there between the coils of the intestines. The intestines are greatly distended with gas and covered with a shaggy coating of lymph in patches which can easily be stripped.

Occasionally two or three colls are glued together with plastic lymph.

It is often stated that puerperal general peri tonitis is always associated with septicemia and is invariably fatal. If the peritonitis is regarded as a terminal event in a puerperal blood infection the tendency will be to withhold surgical treatment, but if it is regarded as the result of an infection spread ing from the uterus or a local lesion in the pelvis early diagnosis and surgical treatment become of the greatest practical importance The authors believe that the association of peritonitis and septicemia is not so common as has been supposed, and that peritonitis developing after the first few days of the nuerperium is usually not associated with a blood infection but is the result of infection spreading from a local lesson in the pelvis and therefore amenable to early treatment. In a large number of cases, puerperal peritonitis is a local disease, and not a focal manifestation of a septimemia as has so often been stated.

The symptoms and signs of puerperal general pentonitis vary considerably In cases in which the condition develops within the first three or four days after parturition the patient is nearly always already acutely ill with puerperal fever The onset of peritonitis in such cases is marked by a change for the worse in the general condition. Occasionally the symptoms and signs referred to the abdomen are so few that the peritonitis may not be discovered until autopsy is done. More frequently, the development in the first stages of the illness of a few symptoms and signs suggesting an acute abdominal dis turbance permits a diagnosis to be made before death. In cases in which the general peritonitis develops several days or several weeks after parturi tion there has often been very little evidence of puerperal infection until the sudden appearance of the pentonitis. In such cases there are not only marked constitutional changes but also very definite symptoms and signs of an acute abdominal catastrophe. Between these two extreme types are cases of every grade of seventy

Typically the onset of puerperal peritonitis is manifested by a triad of symptoms—a rigor abdom inal pain, and a marked increase in the pulse rate. The abdominal pain usually accompanies the initial rigor. In the majority of cases it is very severe and sometimes even agonizing. With the rigor the pulse rate rises to 120 or higher. The respirations are in creased in rate. The appetite is lost from the be ginning of the illness Vomiting is not a constant feature Constipation is usually present, but in some cases, distribute is an important early symptom and may favor a fatal ending by causing painful tenesmus and dehydration. Painful micturition and not un commonly acute retention may occur. In cases in which peritonitis begins soon after labor the flow of milk may never appear or is suppressed. The patient seems very ill, and soon after the onset of the condition has an anxious expression. Her eyes are hollow and her cheeks sunken. She lies flat on her back with her legs drawn up and is quite still. The tongue, at first moist and of normal color later ac onires a white coating and still later becomes dry and brown. If the patient lives for five or six days the teeth and lips are covered with sordes. Rigidity can usually be detected over the lowest part and the center of the abdomen, but may be present to a greater extent. Tenderness of the abdomen is frequently found. Distention is noticed early and when the walls of the abdomen are thin the outline of coils of intestines may be seen. Vaginal examina tion discloses tenderness in the pouch of Douglas. On himanual examination pressure over the uterus causes pain while the presence of the local leadon, a uterine abscess or tumor may be felt

Early disaposis is of the greatest importance. The authors believe it should be possible for the clinician to make a correct diagnosis with much greater frequency than is done at present as so often the natients are already under observation for puerperal

pyrexia when peritonitis supervenes.

The authors are of the opinion that operative in terference is essential in all cases of general puerperal peritonitis due to any organism other than the runococcus. They have found no reliable evidence of spontaneous recovery in such cases. Operation should be performed as soon as the diagnosis is made even though the patient appears very ill. Anasthesia is best induced with ether by the open method. The primary purpose of the operation is drainage of the peritoneal ca its. In every case the drainage abould he established by the abdominal route in order that exploration can be done. If drainage is established by the vaginal route alone the pelvic organs cannot be carefully examined and occasionally an extra pelvic origin of the peritonitis may escape recor nition. Moreover adequate drainage of the general peritoneal cavity cannot be obtained. However dramage by the varinal route is of value as a subsidiary method If a focus of localized pelvic suppuration is found it must be removed or free drainage must be provided. If an abscess is present in the wall of the uterus or in the broad ligament, it should be rapidly packed off with gauze and opened with the fineer or a sunus forceps, and the pus within souled up with moist gauze swabs. A second drainage tube should be introduced into the abscessed cavity if the latter is large enough and brought out through the abdominal wound.

The authors believe that, except in cases of infected fibroids, hysterectomy should never be per formed in the presence of puerperal pentonitis, not even when an abacess is present in the uterine wall. By the time prerperal peritonitis is established, the entire pelvic lymphatic pleans is infiltrated with streptococci and hysterectomy will by no means remove the site of the organisms. On the contrary it will expose new lymphatic vessels and tissue spaces for further absorption of organisms and thus precipitate a fatal issue. Cutting across an infected lymphatic pathway in the absence of gross pus formation is strictly against surgical principles.

Occasionally a non-pelvic cause, such as a gangrenous appendix, will be found responsible for

the peritonith.

The operation should be performed as speedily as possible and all precautions should be taken to prevent shock. In the cases of patients who are very Ill. it is sometimes advisable to give an intravenous saline infusion and delay operation for an hour or two after the patient a admission to the bospital.

The authors have not found the administration of intravenous antiseptics or antistreptococal serum of any value. In cases in which severe vomiting or diarrhors occur 30 c.cm. of a 10 per cent softum chloride solution should be given intravenously to replace the chlorides lost from the body

The drainage tubes should be shortened after twenty-four hours and removed as soon as draining bas ceased. When localized supporation has or curred, one tube should be left in place for a louger period. After removal of the tubes a careful watch must be kept for the development of residual abscesses. Residual abscesses must be drained as soos as they are recognized.

J TROEXWELL WITHERSTONE, M.D.

GENITO-URINARY SURGERY

ADRENAL, KIDNEY, AND URETER

Chabanier Lobo-Chail Marchant and Donoso-Barthet A Study of Ten Serrer Cases of Acute Mercurial Nephritis. Considerations of a Physiopathological and Therapoutte Nature (Etude de dir cas de réphrites mercurielles aigus graves. Considérations d'ortres physiopathologique et therapeutique) J d'arol méé et ckir., 1933 222 N.

In ten cases of acute nephritis due to mercury poisoning the authors studied the chloride content

of the blood and the acid base balance

In seven of the cases the chloride content of the blood was found to be very low at the time of the patient's admission to the hospital, in two it was only alightly lower than normal, and in one it was normal. The differences were explained by the difference in the length of time that had elapsed

since the occurrence of the poisoning

Mercury poisoning is always accompanied by a decrease in the chloride content of the blood which becomes greater with time. This decrease is not the cause of the marked impairment of kidney function, as the function of the kidneys is impaired immediately by the poison itself whereas the de crease in the chloride content of the blood is not marked until about the third day However, the decrease in the chloride content of the blood im pairs the kidney function still further as is evident from the fact that following the administration of large doses of salt particularly in the form of hypertonic salt solution, diuresis improves and the improvement is especially rapid when the chloride content of the blood approaches normal again The concentration of urea in the unne also increases and as a result the urea content of the blood de CTCASCS.

Sufficient amounts of salt cannot be administered by subcutaneous injection. For effective action it is necessary to give intravenous injections of large amounts (from 100 to 150 c.cm.) of a 20 per cent hypertonic sait solution for several days in succession. These large doses of salt are very well

The redema which appeared in two of the author's cases did not interfere with the progress of diuresis and was absorbed without any ill effect.

Even after the patients had recovered apparently normal health the acid-base balance had not returned to normal, but indicated agazeous acidosis, that is, an acidosis due to an excess of carbon doxide. This must have been due either to a decrease in the stimulability of the respiratory center or a deviation of the lso-electrical point of the harmoglobin toward an akialine pii.

AUDREY GOES MORGAN M D

Patch F S and Reid R. G: Carbuncle of the Kidney with a Report of Two Cases of Bilat eral Involvement Brit. J. Ursl., 1933 v 34

Renal carbuncle is a typical disease of the kidney developing secondarily to a suppurative focus else where in the body As a rule the infecting organism is a staphylococcus brought to the kidney by the blood stream from a furuncle carbuncle or other peripheral focus. The symptoms usually develop gradually There may be a high fever which is con tinuous, remittent, or intermittent. Urinary symptoms may be absent and the urine may contain only a small amount of pus or no pus. At times, fever lassitude, and headache may be the only symptoms As a rule there are dull poins in the affected side Frequently there is tenderness in the loin with occasionally muscular resistance. The kidney may be palpated and found swollen and tender Perine phntic abscess often complicates the intrarenal condition. A leucocytosis is usually present. In many cases the differential diagnosis between car buncle of the kidney suppurative nephritis renal abscess and the early stages of pennephritis is difficult

The bilateral involvement is exceedingly rare. In addition to two cases of bilateral involvement the authors report two cases of unilateral pennephritic abscess in which a diagnosis of renal carbuncle was probably warranted and recovery followed drainage.

Case 1 The patient was a man thurty four years of age who complained of permeal pain and increased frequency of urination. Eleven days previously he had had some abscessed teeth extracted. The extraction was followed by severe headsche, dizziness and fever an aching pain in the perineum and in creased frequency of urination. Venercal disease was denied. Examination revealed unflateral swelling of the prostate a purulent urethral discharge and pyurla. The prostatic swelling seemed to be draining through the urethra. Cultures of the pus yielded the staphylococcus aureus Following the patient s discharge from the hospital the symptoms quickly re turned in an aggravated form. The prostate was then twice drained perineally. Two months later a ballotable renal mass, the size of an orange, appeared on the right side and the left kidney was slightly en larged. Pain and tenderness were absent on both sides. Blood cultures yielded the staphylococcus aureus. The urine from the right kidney was very purulent and contained the bacillus coll and staphylococcus aureus. The urine from the left kidney contained a few pus cells. Drainage with an inlying catheter and pelvic lavage were tried. The right kidney was drained with a tube. Cultures of the drained fluid yielded the staphylococcus aureus A very obvious mass then developed in the region of the left kidney region. Cultures of the fluid drained from this kidney also showed the staphylococcus aureus. The patient is general condition failed and an abscess developed in the left kinee. This abscess also was drained. Death resulted from sithenia The condition was a staphylococcus aureus pyzmia. The autopay findings were prostatic abscess, pyzmia, kidaterial carbonicle of the kidney thisterial peri nephritic abscess, carbonicle of the right kibb of the liver acute cystitis, bilateral bouncheporumonia acute and the control of the consense of the control of the c

and hydropericardium.

Case 2 The patient was a man forty four years of age who complained of abdominal pain radiating to the right shoulder and weakness. He had been treated for catarrhal faundice. Two months previous to his admission to the hospital he infected his shoulder by a scratch. Three weeks later pain be gan in the right upper quadrant of the abdomen, and after another three weeks this was followed by a cough with the expectoration of blood-streaked sputum. During the month preceding his admission to the hospital the patient had two mild rigors. A diagnoris of bilateral bronchopneumonia was made Examination disclosed tenderness in the right upper quadrant of the abdomen and a discharging wound and aboves on the left shoulder. Cultures of the discharge yielded the staphylococcus aureus. urme contained hile and pus cells. The patient had a fever and blood cultures yielded the staphylococcus aureus. Later the staphylococcus aureus was discovered also in the soutum. Pus was found in the urine only twice in five examinations (from 10 to 15 pus cells per high power field) Increasing saundice and abdominal distention developed. Death resulted from staphylococcus aureus pyarnia. anatomical diagnosis was bealing superficial in fection of the right shoulder pyemia, bilateral car buncle of the kidney and perinephritic abscess, acute supporative perioreteritis on the right side, acute axillary abscrss, acute peritonitis, acute bilateral empyems, polmonary abscesses, acute bilateral bronchopneumonia, and acute purulent bronchitis.

Case i The patient was a boy seventeen years of age who was admitted to the hospital with the diagnosis of acute appendicitis. Examination re-vealed tenderness and resistance in the right lower quadrant of the abdomen and the right loin. The urine was normal except for a faint trace of albumin There were healing boils on the neck. On removal, the appendix was found normal. Soon after the operation pain and tenderness developed in the right loin, especially in the costomuscular angle. Repeated urinalysis showed only a faint trace of albumin and an occasional lenencyte. Increased frequency of orination then began and a tentative diagnosis of renal carbuncle and perinephritic abacess was made. Pyelography revealed incomplete filling of the right lower calvx and alight upward displacement of the middle calyx. Cultures of the ureteral specimens were negative. Operation revealed an abacess situated pasteriorly about the upper pole of the lidney. Daslings was instituted. Cultures of the pas yielded the staphylococcus aureus. After the establishment of drainage the patient's condition improved, the urine became normal, and prelograms showed at first decreasing signs of abnormality and ultimately normaley.

Case 4. The patient was a woman fifty-three years of age who complained of loss of weight and strength. thirst, and the sensation of a mass in the right groin Four months before her admission to the homital she had had a carbuncle on her left temple. Examina tion at the time of her admission revealed tenderness in the coleastrium, the right upper quadrant of the abdomen and the right costomuscular angle, and resistance on the right side of the abdomen. Urinalvals showed a faint trace of albumin, but no pus-Operation disclosed a large, hard, lobulated mass in the region of the right kidney which was adherent to the undersurface of the liver and to the appendix. The kidney felt hard and fibrosed. A rise in the temperature was ascribed to a suphenous vela phlebitis on the right side. The urine was negative for a time, but later showed from 30 to 40 pus cells per field. On cystoscopic examination the urine from the right ureter was found pale and cloudy. That from the left ureter was normal. On pyelographic examination the left kidney was found normal, but the right kidney showed partly filled lower culyus apparently displaced upward, a finding strongly suggestive of tumor Incision into the kidney released a little pos. The kidney cavity was drained. Sinus drainage continued for a time but complete recovery followed.

Although a bridgerium were made in the two
Although be arbbot are convinced that prebaraphy would have revealed typical evidence of
timor. They state that the recent literature is
dicates a tendency toward more conservative treat
ment. While nephrectomy is usually followed by
recovery the possibility of involvement of the obserkidney must be kept in mind. Resection, enudeation,
incision, curetrage and drainage, and drainage of the
shacess alone have been employed, but occasionally
a construction of the control of the contraction of the control of the conditional control of the conditional control of the conformation of the conditional control of the conformation of the conditional control of the conditional conditional conditional contimes are considered as a conditional con-

Carli, C.: Hernia of the Ureter (Lernia dell'uretert)
4 nn fiel di chir., 193 ni, 2078.

Hernia of the ureter occurs in association with intestinal or omental hernia and presents itself in either the inguinal or the femoral canal

Carll cites cases reported in the literature and reviews eighteen cases treated at the Sorgical Clink of Sieas. Of the latter seven were temocal and eleven were ingolusil. Nine of the inguinal herist were on the right side and two on the left. Of femoral hernie, five were on the right side and two on the left. Of the inguinal hernie, nine were direct and two were indirect. Ten of the eighteen bernies occurred in males. One occurred between the twentieth and thirtneth years of age four between the thirtleth and fortieth years, six between the fortneth and fittleth years five between the fittleth and artieth years, and two between the sixtleth and seventieth years. In nine cases the ureter alone was associated with the intestinal her nia, whereas in the others both the ureter and the bladder were present in the hernial sac. In no case was the queter herniated without the intestinal

Of the ureteroverical hernise three were para peritoneal and aix were extraperitoneal.

Hernia of the unreter is rarely diagnosed before operation. Of the cases reviewed, a correct preoperature diagnosis was made in only one, a case in which the symptoms suggested unmary tract in
volvement.

The author finds ureterography of more ald in the diamonis than catheterisation

He states that in the cases reviewed there was no damage to the ureter after the operation but he mentions no postoperative study to ascertain such damage Grown C Frons, M D

Beer B.: The Value of Ureteral Re-Implantation in the Bladder Am J Surg 1934 xr 8.

In 1902 Blasell collected fifty two cases in which an attempt was made to re implant the ureter into the bladder. The first case was reported by Nuss bount in 1876 With the development of urinary tract surgery and especially of surgery of carcinoma of the bladder the operation has assumed great importance. Reflux has played a very minor rôle Carrell cystoscopic study the use of indigocarmine and intravenous urography have demonstrated that in the majority of cases the operation has been of definite value.

The author divides his series of forty-one cases into the following four groups (1) resection of the bladder and ureleral implantation for carcanoma thurty cases (2) pelvic unter damaged in a pelvic operation, four cases (3) peridiverticulitis with in jury of the pelvic ureter four cases and (4) attricture of the lower part of the ureter three cases.

The cases of Group 1 are divided into four subscoups. In Subgroup 1 were eight cases in which intravenous utography was done from a few months to several years after the operation. One of the patients died but all of the others had good function who months after the operation. In Subgroup 2 there were five cases which were checked by later operation or autopsy. One of these cases was in cluded also in Subgroup 1 in the four others the re implanted ureters and the kidneys were found in good condition. In Subgroup 3 there were four deaths due to shock following the operation. In Subgroup 4 there were four deaths due to shock following the operation. In Subgroup 4 there were four deaths due to shock following the operation. In Subgroup 4 there were four deaths due to shock following the operation. In Subgroup 4 there were four the cases which were followed for years. Fight of the patients had no kliney symptoms, but four had defaulte resul infection. In the cases of two the follow up was inadequate.

Of the four cases in Group 2 the re implantation was done by the author in three and in these cases

was followed by good results. In one case it was done twenty years ago by the intraperationeal route at the time of the gynecological operation. In this case the kidney was destroyed

In the cases of Groups 3 and 4 results were good In describing the technique of the implantation the author states that the end of the ureter is cut for from 1 to 1 5 cm. in its long axis and is drawn through a large inclino made through a convenient exit peritoneal part of the bladder. This chromic gut satures are used. A rubber dam is used for drainage on the means in de of the anistomosis.

CLAUDE D PICKREIL, M D

BLADDER, URETHRA, AND PENIS

Haines, C.: Traumatic Rupture of the Urethra.

J Urel 1913 221x, 185

Haines urges conservative treatment of traumatic rupture of the uretima especially by less experienced surgeons. He states that end to-end anastomous is not always necessary as the defect often becomes repaired spontaneously. Pezzar estheters used as suprapublic drains do not drain the bladder ade quately. Therefore Haines uses rectal tribes of alses 30 to 34 F to drain the bladder suprapublically. He cites three cases of ruptured urethra—each of a different type—to illustrate the use of conservative measures.

Transporse P Gesore, M.D.

Ainsworth Davis, J. C. The Prevention and Trees ment of Urethral Stricture of Inflammatory Origin Bru J. Ural. 1933 v. 1

Unfortunately there exists the impression that cure of gonorrhoes is complete when the urethral discharge ceases and the urine is clear or contains only a few shreds. This is erroneous as these two signs should be regarded merely as stages in the progress towards cure in the treatment of strictures of large caliber Massage of the prostate and seminal vesicles carried out every third day and followed by complete irregation of the urethra and bladder is the next step and it will often be found that the unne becomes cloudy again because of infection in these organs. The treatment must be continued until the urine is free from pus and organisms after massage Next the urethra should be dilated under local anesthesia to empty the urethral glands which may have been infected. Dilatation should be followed by complete irrigation at weekly intervals until a caliber of over 40 F is attained and the urine is again free from bus and organisms after prostatic massage If a non specific utethral discharge persists the urethral glands must be emptied by suction, as with the apparatus of Kidd which consists of a hollow tube perforated by a large number of small openings. Three or four treatments at intervals of three days are usually enough to obtain perfect results. Each treatment should be followed by complete irrigation of the urethra. By the term organisms the author means not only the gonococcus but also the second ary invaders which maintain chronic glandular

infection with consequent periglandular fibrosis, the

Successful treatment depends your dilutation of every portion of the prothra to a degree greater then its normal limits. When this is done systematically and the degree of dilatation is graduated, the runting of the fibrous tiesne are absorbed during the intervals between treatments and the lumen of the prethra eradually returns to its original callber. The best instrument is Kollmann a enternposterior dilator. In cases of stricture under so F the surroom should be satisfied with an increase of a degrees at each sitting in cases of stricture between to and to F with an increase of a degree and in cases of stricture over 40 F. with an increase of to degree. The treatments should be carried out at weekly intervals and followed by complete irrigation of the bladder with a 1:8,000 solution of acriflavine or a 150 one solution of expressuide of mercury according to whether the urine is cloudy or clear As a rule treatment is satisfactors up to about ac degrees and after 38 degrees, but bleeding occurs standarding of ultimate cure. When it is successfully overcome a good result is assured. When full dilate tion has been reached on three consecutive occasions without any appreciable resistance before 40 F and without bleeding the intervals between treatments should be extended until finally only one treatment yearly is given as a negotiation and the stricture may be regarded as cured. The dilatation is done by the author under local angesthesia.

Strictures of small caliber i.e. under so F. which develop as a result of inadequate treatment of their causal disease usually do not produce symptoms until their caliber becomes less than that of the meatus. when diminution of the size of the uringry stream and some prolongation of the act of urination supervene Too often these early symptoms are ignored and adequate examination is delayed until the development of injection with resulting frequency and discomfort or pain on urination. Occasionally treatment is delayed even longer until, per hans after exposure to cold and damp or after alcoholic or sexual excess, almost complete retention develops. In such strictures, preliminary measures must be carried out until the urethra attains a caliber of over so F and treatment then given with the Kollmann dilator until a cure is obtained.

The methods of treatment may be classified as

follows

1 Instrumental (a) guides and followers
(b) dilatherms by guides and olives (c) continuous
dilatation by catheters and (d) intermittent

distration by bouries, gam-elastic, or curved metal.

2 Operative (a) internal urethrotomy (b) external urethrotomy (c) suprapulse cystotomy alone
and (d) suprapulse cystotomy followed by excision
or retrograde calineterization of the stricture.

In the use of guides and followers a sterilized guide with about 14 in. of its tip bent to an angle of 30 degrees is gently passed down the urethra being rotated from alde to side to keep its point from actiing in any lacena, and the point is made to energe
the opening in the stricture. This may take half as
hour or more. The attempt is made to appropriate
position of the point of the guide, elightly between
each movement of insertion and withdrawal. If the
procedure falls one of the following from methods is
used.

The guide is withdrawn, the angle of the terminal \aleph_i in is altered, and the process repeated.

The guide is passed two or three other guides are passed alongside it and each guide is manipolated in term until one is made to covers in the canal detail of the control of the

stricture

3 The urethra distal to the stricture is distended fully with olive oil which is retained by a penile clamp and one or more guides are passed and manipulated as before

4. A Swift Joly arethroscope with a Ryzdham-Powell tube is inserted into the arethra and the guide is passed by direct vision. This procedure should be delayed for a few days if bleeding occurs and is storned at the first sign of bleeding.

5 A small follower is screened into the guide and the foint terted by a firm pull so that the guide may not be left in the hisdeer when the follower is withdrawn. When pushed into the bladder the guide curls up and often so resistance to the occording follower which is left in place for from three to free minutes to dilate the stricture further On withdrawal, three larger followers are passed at one sittler.

The treatments are given weekly and continued until the whole urethra has reached a caliber of about to degrees English, after which bounes are used.

In the use of dishermy with guides and olives, the treatment is begun with an olive which cas allowed passed into the bladder. This is then within was an an olive of the next size attached. When the stricture is reached the current is turned on until a sensation of best is felt by the patient. Still larger olives are then used.

Continuous dilatation by catheters is employed for very dense strictures which do not respond to intermittent methods and for resilient strictures prior to such processes as libidolapary. After twenty-four hours the catheter becomes quite loose and the second a larger size is possible. In this way every resistant stricture can be dilated from 6 or yet and the continuous c

Dilatation by goun-elastic bougles is the most common form of intermittent treatment and as effective link between the use of guides and followers and Kodimans additor. If obstruction is encount ered, smaller sizes are tried until one is found to enter the canal of the stricture. The bought is the withdrawn and the bladder irrigated with prix cranide of mercury solution. Urlinary antispers of such as becambe before meals and an add mixture after meals, are administered for three days beliating trumentation and situation for similar prixel siter instrumentation. At subsequent treatments given at weekly intervals no more than three bougies are passed and the second is the largest used at the previous treatment. The treatment is stopped at the first sign of bleeding. After size so F is reached Kollmann's dilator is employed.

Curved metal sounds are used for posterior urethral obstruction due to prostatic abscess, anterior urethral obstruction due to penurethral abscess, and in treatment preliminary to such

procedures as litholanaxy

The indications for operation include (1) in shilliy to pass a guide in cases of retention (2) in shilliy to pass a guide on three consecutive occasions, (3) strictures intolerant of dilatation after the skilled passage of instruments as evidenced by rigors isomorphage, retention or epididymitis on each occasion (4) the presence of perimethral extra vasation (5) certain cases of permethral extra vasation (5) certain cases of permethral abscess (6) stricture complicated by a cure cystitis enlarge ment of the prostate or in some cases, vesucal stone (7) renal failure (8) as a preliminary to excition of the stricture and (6) certain complications occurring during treatment e.g. the breaking off of a guide in the bladder

The operations are internal urethrotomy external urethrotomy and suprapuble cystotomy. Supra public cystotomy is sometimes followed by exclain of the stricture but most commonly by instrumental dilatation by one of the methods described or retrograde catheterization. Operation should only be done as a last resort. Lova Nowerli M.D.

GENITAL ORGANS

Lower W E.: The Endocrine Influence on the Mule Sex Organs. Vew England J Med 1933 ccviii

The main theme of the article is the influence of certain hormones upon the presente gland. Lower and his co-workers are conducting animal experiments to determine the relationship between the ponads and the plutiary gland. A study of the voluminous literature on the subject and their own experience leads them to the following conclusions

The testicle produces two hormones (a) a hormone from the interstitial cells which regulates the male generative organs and (b) a hormone from the germinal epithelium which inhibits hyperfunc

tion of the pituitary gland

It has been proved by Martins that the pituitary gland of a castrated animal is hyperfunctioning. This observation leads to the conclosion that the testes exert an imbibiting influence on the rate of pituitars activity, and that prostatic hypertrophy is a physiological reaction to a functional disturbance of the endocrine system. In canuchs no male ear hormone can be demonstrated and the prostate is small and strophic. About forty years ago castration was performed for prostatic enlargement, but later it was abandoned because of its high mortality.

Lower believes that the germinal epithelial of the teates secretes a substance which inhibits over activity of the pituitary gland, and he is applying this theory clinically. In males senescence causes degenerative changes in the germinal enithelium and as a result the pituitary gland increases in size and is hyperactive. The hyperactivity of the pituitary gland stimulates the interstitial cells of the testicle to produce an excess of the male sex hormone which causes prostatic hypertrophy The hypertrophy of the prostate may be prevented by inhibiting the influence of the anterior lobe of the pituitary gland and of the gonads. The influence of the gonads is inhibited by the production of testicular ischemia or by artificial castration by ligation of the main blood supply of the testicle. Testicular ischarmia weakens the interstitial cells and prevents an excess of the male sex hormone. In a few cases reduction of the gland has been followed by cessation of obstructive symptoms. The procedure recommended by Lower is transurethral resection of the obstructive portion and ligation of the blood supply of the testicle. This is recommended for the large soft glands, not for the fibrous prostate. It is less han ardous than prostatectomy and from an economic point of view is decidedly preferable. Ligation of the blood supply of the testicle is effected by divid ing the internal spermatic and deferential arteries with the vas. No sloughing has been observed. Lower is now carrying out experiments to determine whether the same results can be produced by inject ing substances directly into the testicles

MAURICE MELTEER, M.D.

Morson C. Webb-Johnson A. E. Lee, R. O. Nitch C. A. R. and Others Discussion on Tuberculosis of the Male Genital Tract Proc. Rev Sec. Med. Lond. 1933 xxvi, 793

Monson says that the portal of entry of tubercu loss can never be any part of the genito-urinary tract. The infection may reach the genital tract from the urmary tract by direct extension or may be a blood-borne complication from a focus somewhere outside of this system. In Morson's opinion the organ first involved is the testicle, but some believe it is most often the prostate. The spread of the infection from the external genitalia to the accessors sex organs occurs by way of the lymphatics within the wall of the vas or within the lumen of the duct Morson believes that the normal kidney cannot filter the organisms of tuberculosis from the blood stream into the urine. When the genital organs be come infected from the urinary passages urethritis occurs first and is followed by invasion of the prostate and seminal vesicles and finally invasion of the testicles When only one kidney is involved, uni lateral genital tuberculous on the same aide is the rule. Morson believes it is impossible for the sper matozon to carry the tubercle bacillus. He states that avian tuberculosis may be transmitted to man from fowls in the same way as psittacosis. The younger the subject the more virulent the infection.

For case of suspected tuberculous of the genital tract, Mirnos advises the unal reentgen cambation of the lungs, exaction time of the sputtim, and edimentation and spines pag inoculation of the urine. When the urine is negative the infection may be blood-borne. The scrottom should be estimated for changes in the ruge loss of elasticity of the kith, wasting of the cellular tissues immediately beneath the dermis adhesions of the kith to the epididymis, and lack of mobility of the testide.

Morson has found tuberculin of little value for eather general or localized lesions of tuberculosis. He advises general supportive treatment, exposure to ultraviolet rays, a diet rich n vitamins, and supportive drugs. He regards hallbut oil as more effect than cold liver oil. For cases without supports tive shouses or involvement of the akin of the scrottm be advises medical treatment with prolonged satisfarium treatment. He recommends division of both view.

When JOHNSON mays that in contrast to the surpl cultumangement of malignant disease the complete extipation of the lesions of tubercolosis is sedom lessfule necessary or desirable as there is an inherent actural resistance to infection. He couplasizes the importance of cooperation of the patient with his doctor and of prolonged sanitorium treat

ment in tuberculosis.

LEE mays the more radical operative procedures are no more effective than the more conservative procedures in the treatment of scaling tuberculosis.

FRESHMAN states that he favors conservative treatment of genital tuberculosis, especially the use of tuberculin.

PATHE says that very little is known about the pathological characteristics and spread of tuberen losis of the genital tract and that the results of radical operation conservative operation, and medical treatment are about the same.

Nirch states that be prefers a so-called radical operation epididymo- (or orchido-) vasovenicaler tomy

Claruz D Houses, M.D.

Crabtree, E. G., and Brodney M. L.; An Estimate of the Value of Urethrogram and Cystogram in the Diagnosis of Prostatic Obstruction. J. Urd. 1913, 221, 234.

The authors report a study of cystograms and urthrograms made in the cases of petients slib different types of protraide obstruction. They found these V-ray studies to be important dignostic measures especially when intra-urethral treatment abone was to be employed. They are of value also to show the cause of poor functional results after operation.

The authors prefer a meatal injection of liploid by means of a 30-c.cm syringe fitted with a nextle tip. During the expourse of the film the sphinten are forced. Urethrograms can be taken in the asteroposterior lateral, or semilateral position. Cyriograms can be taken in the same positions after the bladder has been filled with a 3 per cent or stronger

solution of sodium iodide
Cystograms show three major variations from the
normal (1) filling defects of the bladder base,
(3) elevation of the bladder base above the synphysis, and (3) asymmetry of the bladder base.
When the prostatic giand is large urethrograms slovi
increased length of the pentatic urethra from the
captet to the internal ordine, parrowing or failteing of the prostatic lumen, and deviation of the
lumen from the middle. To determine the significance of these changes cyato-urethrography is normmary.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Bauer W Hyperparathyroldism: A Distinct Disease Entity J Bone & Joint Surg., 1933 xv 135

The author states that in the six years which have clapsed since hyperparathyroddism or generalized certails shores cystics (von Recklinghausen) was first recognized clinically, a large number of cases have been reported. He believes that if sufficient interest is aroused in the condition, more cases will be detected before permanent bone changes and complications have occurred. Of even more interest at the present time is the question whether or not other skeletal diseases are due to hyperparathy relief.

All cases of hyperparathyroddim or generalized costellis fibross cystles thus far reported have been due to a parathyrod adenoma. Arthritis and larget a disease are never generalized skeletal disease. This fact indicates that they are not of parathyroid origin. The changes in calcium and phosphorus metabolism are (r) an increase in the serum calcium (z) a decrease in the serum phosphorus, (3) an increase in the textretion of calcium and (4) an increase in the exertion of calcium and (4) an increase in the extretion of phosphorus. Among the symptoms and signs accompanying these disturbances of metabolism are weakness, muscle and joint pains, frequent fractures skeletal shortem fractures in the careful calcification.

Until some simple test for hyperparathyroidism is devised, all suspected cases should be carefully studied. The serum calcium and phosphorus and, it possible, the serum phosphatase should be deter minde. Parathyroidectomy should not be performed until sufficient evidence is obtained that the diagnosis is correct.

Funsten stated that some of his cases of anky losing polyarthritis were operated on by Ballin with gratifying results and argues that the increased serum calcium and the ankylosis are manifestations of hyperparathyroidum. However metastatic calcification is a very late manifestation of the disease which is found only in fatal cases or in animals which have succumbed to overflower of parathormone.

All cases of hyperparathyroidism observed by Bauer have shown a permanently elevated serum calcium and not transitory elevations such as those reported by Funsten. In bether form of arthritis has Bauer seen any signs suggesting hyperparathyroidism as a causal factor. He belleves that the improvement reported siter parathyroidectomy may have been due to anesthesia rest in bed, or a natural remission.

Bauer reports a case of progressive parathyredidism in which the parathyredid tumor was found in the region of the mediastinum. Although the patient had suffered from the disease for thirteen years and bone deformities were present there was no evidence of arthritis.

The theory of Bailin and Morse that Paget s disease is due to hyperathyrodiam is rejected by Bauer
because the signs and symptoms of the two conditions are not the same. In Paget s disease fractures
are infrequent, the changes are sometimes confined to
one long bone, and the entire skeletal system is never
involved Morrover the cortex of the bones is thick
whereas in hyperparathyrodism it is thin. However
histological sections may be similar. In Paget s disease the increase in the serum phosphatase is much
more marked than in hyperparathyrodium.

In Bauer's opinion the patients of Ballin and Morse who have shown improvement following parathyroidectomy have not been followed for a sufficiently long period of time to warrant a definite conclusion that lasting benefit or cure has been obtained. Bauer believes that neither arthritis nor Paget's disease is due to hyperparathyroidism.

ROBERT V FURNIEM M D

Tammann H.: Experimental Osteochondritis
Dissecans (Ueber experimentelle Osteochondritis
dissecans) Arch. f. Hin Chir., 1938 classii, 450

The author reports the results of experiments on does in which the attempt was made to pro duce osteochondritis dissecans artificially. On the basis of the theory that the site of the injury causing this disease is to be sought in the subchon dral osseous tissue, the knee joints were opened from the lateral side, canals were drilled in the lower epiphysis of the femur and, in their ends, by means of the coagulating electrode electrical coagulation of the subchondral bone was done until the articular cartilage over the treated area in the region of the medial condyle or the intercondyloid fossa showed a fine gray discoloration. The animals sustained no injury from the operation itself. They were able to move about and to bear weight on the extremity operated on The roentgenograms showed nothing abnormal, probably because the changes were too slight. Only in bone specimens was it possible to demonstrate translucent areas in the subchondral bone structure by roentgen examination The findings after various periods of time were as follows

At the end of a week the area of coagulation showed fragmentation of the spongiesa with hemor rhages agms of a reaction in the neighboring tra becula and distinct injury of the contiguous articular cartilage, the cells of which extending in vertical rows to the surface were considerably paler than

After twenty two days, macroscopic examination revealed in the interronduloid force a flat aval de pression with gray but shins articular cartilage. On microscopic examination, the articular cartilage in this area was found to be severely damaged, the cartillage cells being visible merely as cell shadows. The demarcation from the normal cartilage was distinct but in the marginal zone numerous cartilaginous serminating cansules were to be seen. The eacher in the subchondral hone was much less extender and situated at about the center of the cartilage injury. The granulation tissue surrounding the destroyed enongious penetrated into the dam aged articular cartilage. This represented the he sinning of the dissection the liberation of the ininred portion of cartilage from the epiphysis, which reached its maximum in the experiments which were continued for sixty days.

After driv days macroscopic examination disclosed a defect in the cartillage the base of which was billed with bright red granulation tissue. Still attached to the edge of the defect there was a piece of cartilage the size of the head of a pin, and in the unner soint recess there was a free joint body with a diam eter of about a mm Microscopic examination showed the congulation area replaced by newly formed one our mongloss which was covered by a cellular pannus and formed the immediate borders of the joint cavity. At the edge of the cartilage de fect there was a less extensive injury of the cartilase which was similarly marked off from the preserved cartilage by the proliferation of cartilage germinating capsules. However the piece of car tilage in the edge of the defect showed well preserved cartilage cells, as did also the free joint body. The latter has a thin fibrous cansule.

Accordingly it is evident from these experiments that the severely injured articular cardings may be reformed even after its expellation, and that in this way free joint bodies may be formed. The only difference from the free joint bodies formed in osteochondritis disaccass was the absence of spon goas bone. The author believes that even this difference might have disappeared if the experiments had been continued longer. MAX Brone CJ.

Scott, E., Stanton F. M., and Oliver, M: Multiple Myeloma: A Report of Five Cassa. 4m J. Cancer 933 xvil, 68

To the 435 cases of myeloms collected by Geschickter and Copeland in 1978, the suthers add 30 others from the literature and 50 their own The Clinical features are reviewed. Pain is often the first symptom. Forty per cent of the cases show symptoms of cord compression. Multiplicity is the rule only 2 cases of single lesions have been reported. Fractures are common. Bence-fones bodies may appear in the urine intermittently.

The microscopic findings and the theories regarding the histogenesis of the condition are discussed.

From a study of the maturation stages in fast greeing myelomata and their similarity to experimentally produced plasma cells, the authors concludthat the tumor plasma cell is a derivative of the reticular cells of the harmatopotetic and general connective tissues and closely related to the imphocrite series.

The authors 5 cases of multiple myeloms are reported in detail with photomicroscaphs.

WALTER P BLOOM M.D.

MacCallum, P: Rhabdomyorna of the Extremities. Australian & Are Zadani J. Sure. 1013. B. 806.

Tumors in which muscle fiber is the chief theorem are more in the chief theorem and the places remote from muscle. When they have the places remote from muscle with the places remote from muscle when the considered places are places and the places of the

An a rule such tumors are rounded single or neitiple sodules but tumors are rounded single or neitiple sodules but then they occur in muscle shettle they may be flattened. They are soft in consistency and on section appear grayish with yellow or reareas. On microscopic examination the muscle fibers show no orderly parallel arrangement as in normal muscle. The cells resemble the embrousitype most of them are spindle shaped. They are strated both wars, but the longitudinal straigns are usually the more prominent. Many giant cell forms occur.

The tumors may grow slowly. After surgical removal they may recur locally or at a distance. Metastases have been known to occur in the huga-Neighboring lymph glands may be involved.

The author reports two cases. The first was that of a min tilty-nine verse of age who had a small tumor of a few weeks duration removed frost is arm. Six weeks later a much larger and more diffuse growth, extending from the elbow to the shoulder was removed. About a month later the arm was amputated at the aboulder. A few weeks after the amputation death occurred from planesses of the amount of the two planesses of the amount of the two planesses of the control of the amputation death occurred from Planesses of the amputation and the amount of the amount o

The author's second case was that of a woman are the training of the second case was that of a woman seventy years of age who sought treatment for sealing of the right leg which had been gradulfunctions of the second second to the second second to the second to be a dense tumor about the size of a training to the second to be a dense tumor about the size of a training to the second to be a dense tumor about the size of a training to the second to be a dense tumor about the second to be a dense tumor about the second to be a dense to the second to be a dense to the second to be a dense to the second to the secon

the calf muscles. There were no metastases. The tumor showed the spindle shaped, cross-struated cells characteristic of rhabdomyoma.

MacCallum believes that these muscle tumors are not so rare as is generally supposed. In both of his cases the original diagnosis was active fibroms and the correct diagnosis was made only after careful histological examination. Many such tumors may have been classified as surcomata. Their similarity in structure to certain bone acromata may be extremely close, and an ongin from bone is apt to be assumed.

WILLIAM ATHUR CLAIK, M D

Coley W B. The Treatment of Sarcoma of the Long Bones. Ann Surf., 1933 xxvil, 434

This article is based on 500 bone tumors 360 of which were malignant operable sarcomats.

Colev believes that the ideal classification of bone surromata has not yet been reached, but that the classification of the Bone Surroma Registry is the best available. He emphasizes that for practical purposes the classification must be ample. It should indicate whether the surroma is periosteal or central whether it is an osteogenic surroma or an endothelial myeloma and, if a central surroma, whether it is primarily beaum or mallemant.

In the majority of cases a correct diagnosis can be made on the basis of the chinical and roentgenological evidence, but in from 70 to 25 per cent a histological examination is necessary Coley be lieves that the dangers and disadvantages of mopay have been greatly over-emphasized, and that while it is often possible to make a positive diagnosis of osteogenic sarcoma from the roentgenogram alone in the later stages of the disease, in the early stages this is not true and blopsy is justifiable. He has given up trying to make definite diagnoses from frozen sections and believes that in borderline cases it is safe to wait for the peraffin sections before deciding on amputation.

In discussing irraduction he states that he has been convinced for many years that osteogenic sarcoma is highly resistant to irraduction as well as to Coley's toxins, and that the treatment of choice for this type of bone tumer is immediate amputs the followed by a course of prophylactic treatment with both. He does not approve of preliminary irradiation, but states that when amputation is followed by prophylactic treatment with toxin the incidence of five year cure is twice that obtained by early amputation island.

He states that in early operable cases of endothe lial myeloms or Ewing's sarcoma involving a long bone it is very difficult to determine the best procedure but that a careful analysis of the end results of the different methods seems to warrant a trial of systemic treatment with Coley's torin combined with local irradiation, preferably with the radium pack for a limited period of time before resort is had to amputation. If no definite improvement is noted at the end of from air to eight weeks, no further use of conservative measures is justified.

For multiple myelomata, which are radiosensitive tumors involving a number of bones, the best treat ment appears to be the use of the Heublem unit combined with systematic treatment with Coley s torin.

In the majority of cases of grant-cell tumors conservative measures should be tried first. Primary amputation should be done seldom if ever How ever Coley states that the poor results of irradia tion in the treatment of grant-cell tumors are almost never mentioned. His chief objection to the use of irradiation as the method of choice is the period of disability associated with it and the impossibility of making a correct diagnosis in about 20 per cent of the cases. He states that while it is possible to cure a giant-cell tumor of a long bone by irradia tion irradiation has not been proved superior to all other methods. He believes that if the case is treated primarily by surgery combined with toxins and irradiation more information will be obtained and more benefit offered. In cases of grant-cell tumor a simple biopsy should never be performed but the aspiration biopsy method may sometimes be employed to advantage.

In a comparative study of the early and late statistic regarding osteogenic acroms a notable improvement in the results was found. Of 261 patients with malignant sarcoms of bone exclusive of glant-cell tumors who were treated prior to November, 1927 54 (207) per cent) have remained well for five years or longer Coley is of the opinion that the present pessinistic attitude regarding the prognosis is without foundation in fact. He states that a favorable prognosis depends on early diagnosis and a proper course of treatment.

The article is concluded with the following statement Bone sarcoms is a field in which a careful weighing of all evidence the clinical, the roent genological, and the histological is required. In other words in order to arrive at a correct diagnosis, especially in the early stages of the dusage a close cooperation on the part of the surgeon the roentgenologist, and the pathologist is most essen tial.

Paur C. COMMA. MID

Cave, P Osteopiastic Metastases. Brit J Radiol 1933 vi, 69.

Cave reports the case of a man sixty three years of age who died three years after the first symptoms of carcinoma of the prostate. Autopsy revealed pleural adhesions numerous shotty gray granules in the lungs suggesting malignant performeding infiltration, evidence of adenocarcinoma in the lung tissue and tumor invasion of the vertebre. Roent genograms showed marked denaity of the pelvic brim extending only to the sacro-iliac joints an osteoplastic metastasis of the sacral promontory mottling of the lateral halves of the file by osteo-distic metastases a pathological fracture in the left filum increased denaity of the eighth, eleventh and twelfith thoracts vertebre a few scattered esteoplastic metastases in the ribs, osteodiastic

metastases and two united pathological fractures in the right humerus, multiple osteoclastic metastases in the right radius and ulna and both femora and a pathological fracture in the right femora

The presence of necessarile changes may be a strend dissemination. In the proposed such dissemination we will could be the pulmonary metastate by way of the lymphatic channels and have being only the pulmonary metastate by way of the lymphatic channels and have being only to most frequently in the prestate and being only the proposed of the could be a such as the proposed of the channels and have been described by the proposed of the could be a such as the proposed of the channels and have a such as the proposed of the channels and the such as the proposed of the channels are the channels and the channels are the channels and the channels are the channels and the channels are the channels are the channels and the channels are t

Orteoplastic metastases occur most frequently in

the lower spine, the skull, and the sternum.

The end-result of bone sciences produced and ficially and that caused by the activity of cancer cells is the same and it is not unreasonable to suppose that the essential causative mechanism in both is the cutting off of the local blood surpoly

After the occurrence of a pathological fracture at the site of an osteoclastic metastasis it is not uncommon for the fragments to unite firmly with an abnormal amount of bone sciences.

The author (clear a case in which sections of the lumbur error (clear a case in which sections of the lumbur error (clear a case in which section when the case is the case of
distinct pathological conditions

1. A benign condition of unknown origin, probably due to vasoconstriction of nutrient vessels due

to a sympathetic disorder (Bernard)
2 Lymph-borne metastases from carcinoma of
the prostate and occasionally from carcinoma of the
breast, caused by interference with the blood supply

of bones by carcinomatous infiltration (Cave)
3. A change in the calcium content of otherwise
normal bones in the vicinity of skeletal metastaces,
probably due to metaplasia of bone indirectly in-

duenced by the neoplasm (Sloard)

Outcoulstic changes from carcinoma of the prosnate and carcinoma of the breast occur frequently in the lumboaceral region and the sacro-like (solute and rarely in the saills and thoracte vertebre. As benign condensing osterith occurs in the same localities, there is considerable orielence that some anatomical factor in the humboard of principles also to the force that condensing outeful undoubtedly occurs in conjunction with, but at a distance from carcinomatous measurate boso deposits. It is say gested that the connecting link between these two obecomens is the anatomical interrelationship between the sympathetic ganglis and the lymphatic

A study of the anatomy of the lymphetics and the sympathetic nervous system reveals that nowhere in the body are these two systems so abudant and so close to one another as in the lumbscral and sacro-disc regions. It is obvious that glandular chargement in this region may earn pressure on the sympathetic chain, and it is likely that constant stimulation of the sympathetic night produce constriction of the nutrient arteries of the ones in the lumediate neighborhood. In these words are not considered to the sympathetic supertion of the bone.

In conclusion the author says there is good reason to believe that malignant invasion of ghands occur ings before the ostropiastic changes in bone, and that Hodgkin a disease is the only other disease oldoug duration characterised by massive bard glands which would be likely to exert pressure on the surmer them.

Funsten, R. V: Certain Arthritic Disturbance Associated with Parathyroidism. J Beet V Josef Surg. 033, 37 113.

In the Orthopedic Clink of the Harper Hospital, betrott, a survey of inherty five cases of arbitist-chiefly of the unkyloding type was made in order to separate those showing evidence of hyperpartyroddism. Twenty-sit showed such evidence in the form of prolonged pain muscular weakness, attificates of the joints, pathological fractures, advocation of the hories and mhappropriation of calcium. In all of the latter there was an abnormal clevation of the calcium in the blood and in most of them this as

accompanied by a decrease in the blood phosphoras.

The chronoulmeter and the electrocardiograms were used to determine the degree of muscular

weakness.
Several of the cases are reported in detail.

In fourteen of the twenty-six cases parathyroise tomy was performed by Ballia. Only one of the surgically treated cases failed to show improvement. In also cases there was marked improvement and fact the case of the surgical treated by cosention of the plan and of the sease of stiffness in the joints within a few days after the operation. Improvement was regarded as marked only when the pain was entirely relieved and the contemporaries showed increased density of the bone. In four of the cases there was moderate improvement.

Twelve cases were treated conservatively by the administration of cod liver oil concentrate and exicum glucomate, physical therapy, and the use of orthopedic appliances. Marked improvement resulted in five moderate improvement in three and no improvement in tour

The author concludes that arthritis is very common in parathyroid disease, and that parathyroid

disease is common in arthritis.

In mild cases in which it is impossible to make an absolute diagnous and in the cases of patients who are poor surgical risks, conservative treatment may lead to improvement and at least temporary arrest of the disease

In conclusion the author says that in none of the cases was the parathyroidectomy followed by tet any or shock, and that this operation may be considered a safe and justifiable procedure.

Oxerov A.1 Injuries of the Shoulder Joint Region (Verletzungen der Schultergelenkgegend) New chir Arch., 1932 xxvl 472

On the basis of his experience at the Traumatological Institute, Lenlingrad, the author discusses the most important of the injuries of the shoulder region paying particular attention to the treatment of joint traumata.

r Dislocations of the shoulder Anterior dislocations are much more common than posterior dislocations, the ratio of the former to the latter being oo I According to the mechanism of their action, the methods of treatment can be divided into the following five groups (a) simple extension, (b) extension with pressure on the dislocated head of the humerus, (c) extension with lever action (d) lever reduction and (e) rotation reduction. For subclavicular dislocations the best methods are those of Dianelidze and Kocher The treatment may be carried out under light ether or ethyl chloride anges thesis, and the patient can generally be ambulatory The reduction of bilateral dislocations at one time is inadvisable because of the danger of shock. Im mobilizing dressings should not be used as any immobilization after the reduction of uncomplicated dislocations hinders healing and leads to the development of contractures. Active movements should be berun immediately after the reduction should be resumed early

2 Complicated dislocations. Statistics show that from 39 to 46 per cent of all dislocations of the shoulder are accompanied by distortions ruptures or avulsions of tendons separation of the greater tuberosity of the humerus, fractures of the head or neck of the humerus, the glenoid cavity or the anophysis of the neck of the scapula, tears of blood vessels and harmorrhages into articular cavities. In cases of hemarthrosis treatment by hot applications (Priessnitz compress blue light etc.) should be begun as early as the day following the trauma. Beginning on the third day light active movements and massage and beginning on the fifth day deep massage and more extensive movements should be carried out. The occurrence of pain will indicate the limits of mobility The treatment of these com plicated dislocations varies widely according to the type of injury present, from simple conservative physical therapy to important operations with ex posure of the site of injury and such measures as bone suture the removal of separated fragments of bone excision of ahrunken soft parts and division or transplantation of tendons.

3 Old dialocations In case no bone injuries are found on roentgen examination an attempt at non operative reduction is justified otherwise arthrot omy with division of the subscapular tendon and corresponding operations on the articular ends of the bones and articular soft parts is indicated

A Habitual dislocations, Mild cases in which the dislocation occurs seldom are to be treated con servatively by physical therapy such as massage rhythmic faradisation and medical gymnastics More severe cases with frequent dislocations should be treated surmoslly. Methods of operative re-inforcement of the articular capsule and liga ments are very numerous. The following procedures may be considered the formation of a cleatrical capsular barrier suspension of the head of the humerus by means of intra articular or preferably extra articular fascia and tendon transplantations plastic procedures on muscle and the formation of bony barriers to protect against dislocation, even by means of free bone transplantation. The author has worked out his own method of musculoplasty and has used it in six cases with good results. The technique is as follows

Longitudinal suture of the subscapulars muscle with inclusion of the articular capsule in the suture is done. The external border of the short head of the bloeps is then fastened to the tendon of the subscapularis with the arm rotated externally to the maximal extent. If the extreme rotation is not maintained the border of the bloeps sinks and forms an obstacle internal to the head in the form of a wall of muscle. An abduction splint is applied for from one and a half to two weeks and physical therapy is extriced on for ten days.

From the operative results in twenty five cases the author concludes that simple capsulorrhaphy should not be done. Fascioplasty was followed by recur rence in a third of the cases: Better results are obtained from the formation of a bony barrier. In men doing heavy work the author a own method of musculoplasty has given good healing without recurrence which has now lasted over an observation period of more than two years.

Fractures of the head, neck and both tubercles of the humerus bursitis periarthritis and ruptures and avulsions of muscles and tendons are discussed briefly

The author concludes that the diagnosis of fresh dislocations of the shoulder can be made in complicated cases only with the said of occupien examination. Reduction must be effected without the use of force and in the cases of children and neurasthenics under general ansesthesis. Old dislocations must be treated surgically if there is marked limitation of function in the shoulder joint unless age or a path ological condition constitutes a contra indication. The best approach to the joint for the operative reduction of anterior dislocations is obtained by incision along the auterior border of the deltoid muscle and for the reduction of posterior or complicated dislocations by an epaulette incision. For

exposure of the head of the humerus in subscromial dislocations resection of the commod recover is ab solutely necessary. The dislocated tendon of the long head of the bicens can also be reduced during the operative treatment of the dislocation, and if injured can be fastened to the intertubercular sulcas or the short head of the bicens. The displaced greater tuberoulty of the humerus must be reduced by onen operation. Total resection of the head of the homerus vields noor functional results. An economical resection should be done instead. To enard against postonerative hamatoms formation a class drainage tube should be inserted and left in place for two days A Solon-Jaroscylč or a Voločko abduction splint is more comfortable and economical than a pleater-of Paris solint. In habitual chalocations fascial suspension of the head of the humerus can be recommended only for persons who are not engaged in heavy physical work. For those who do heavy work lengthening of the coracoid process by free osteonlasty may be recommended if the corrected process is too short, and lengthening with a flap of hope and perforteum from 1 to 4 cm. long formed from the process and turned back, if the coracoid nuncees is of normal length. C. Aureos (Z)

SURGERY OF BONES JOINTS, MUSCLES, TENDONS, ETC.

Ghormley R. K., and Brav E. A. Resacted Knes Joints. 4rch Surg. 031 xxvi, 465

The authors reviewed the records of \$16 resctions of fision operations and o amputations per formed for disease of the knee joint in the vestration from 104 to 1041 in 1042 cases in which operation was performed, the incidence of traumar or incident on sun inciding or predisposing factor the duration of symptoms and the age and see of the patients were noted.

Tuberculous males outnumbered tuberculous females b the ratio of 2 5 1 whereas non-tuberculous males outnumbered non-tuberculous females by the ratio of 1 2 1. In 55.8 per cent of all cases the disease was present more than tive years before the occurrion.

In the 256 cases in which tuberculosis was present and operation was not performed, the ratio of males to females was the same and the percentage of cases in which inciting traums was apparent was 36 6

In the early cases the authors found it difficult to pick out agreement status in the content of centure in the rontgeneram which could be said to identify either type of cision. Marked differences were absent also in the advanced cases, but in the moderately advanced cases more typical changes were found. In all of the cases in which changes were found. In all of the cases in which changes were approach the moderately well appears that the disease was probably well.

As an aid in diagnosis the intact joint space must be regarded with some reservation. Often there is flexion contracture in the knees and the joint space cannot be truly represented in the recategorization most of the cases reviewed by the authors there was greater destruction of cartilage in the non-tuberculous joints for a given duration of symptoms. Sections were cut through the surfaces of joints of the complete specimens of or tuberculous joints, it pon-tuberculous joints, and r Charrot joint. Is all cases, 3 types of changes were investigated namely how, associal and confidence of the complete one special control of the cartification.

Of the authors group of 165 cases of proved toberculosis, 5,6 per cent were correctly diagnosed clinically. In 1,6 per cent tuberculosis was consistent and in 1,6 per cent tuberculosis was consistent and in 1,6 per cent the diagnoses of non toberculous arthritis was made. Of the 66 proved cases of pon toberculous arthritis. So 3 per cent were so diagnosed before operation, while 1,17 per cent were diagnosed as tuberculous.

The tuberculin test cannot be considered a dependable diagnostic measure, especially if the patient is an adult. A negative reaction is of more significance than a nonline reaction.

The article is summarized as follows

The clinical history reentgenograms, lesions discovered on macroscopic and microscopic examination, and the results of inoculation of guines pigin a series of 336 cases of resection and 9 cases of amoutations of the knee foint have been studied

The pre-operative diagnosis was found to be iscorrect in \$4.4 per cent of the cases of tuberculous arthritis and in 13.7 per cent of the cases of sootuberculous arthritis.

The gross specimens and roentgenograms were found to vary so widely as often to prevent an accurate diagnosis.

The inoculation of guines pigs proved incorret in 12 3 per cent of the 24 cases in which it was done. The diagnosis made by microscopic examinations of tissues removed at the time of operation as found accurate in all but 1,2 per cent of the cases.

FRACTURES AND DISLOCATIONS

Florentini, A.: Subacromial Dislocation of the Humsus (Sulla lusazione sottoscromials dell'smero) Cl. chr. 91 Hi, 270.

Two cases of subacromial dislocation of the harmonia are reported. Desirelor dislocation of the humeros is much less common than anterior discottion and in generally caused by more serious accidents. It constitutes only about 2-2 per cent of dislocations of the shoulder. This is explained in part by the fact that it is easier to full on the external surface of the shoulder than on the anterior surface, and in part by the fact that the posterior surface, and in part by the fact that the posterior part of the point expanse is re-inforcred by the tendons of the infraspinatus and teres minor much and is partly protected by the vault of the acrossics.

There are two types of posterior dislocation of the humerus—the subacromial, in which the head of the humerus is displaced backward and located beneath the acromion, and the subspinous, is which it is displaced into the subspinous fossa of the scapula. The former is much more common than the latter. As a rule it is not caused by a direct blow on the shoulder from in front backward as such a blow would fracture the acromion or the posteror border of the glenold fossa. It is more apt to be caused by a fall on the elbow or hand with the arm thrown forward and compelled to undergo a movement of forced internal rotation or by move ment of the trunk in the opposite direction with the hand or elbow fixed savinst the ground.

Subacromial dislocation may be accompanied by leatons of the bones. The most common osseous leaton is detachment of the lesser tuberosity of the humerus which remains fixed to the tendon of the subscapularis muscle. In some cases the greater tuberosity may be detached and remain adherent to the tendons of the supraspinatus and infraspinatus muscles.

The arm lies close to the trunk in internal rotation. The axis of the humerus is directed upward outward, and backward. Looked at from in front, the shoulder is flatter than the normal shoulder and its transverse diameter is increased. Most

striking in the front view of the shoulder is abnormal prominence of the coracoid process and the anterior angle of the acromion. Between these two prominences there is a more or less marked longitudinal salucus. Palpation reveals an empty space beneath the anterior angle of the acromion and the presence of the head of the humerus in the space below the posterior angle of the acromion. The posterior displacement of the head of the humerus is shown also by roentgen examination.

The dislocation can be reduced quite easily under ether anesthesia by direct pressure from behind forward on the head of the humerus associated with external rotation of the arm which has previously been abducted. The arm should then be fixed in slight abduction and external rotation. In cases of habitual dislocation, operation is necessary. In the author's opinion the best method is extra articular superation with a free transplant of fascal lata. The period of immobilization necessary depends on the patients age and conditions and the tendency of the dislocation to recur.

AUDREY GOER MORGAN M D

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Mahorner H R.: Thrombo-Anglitis Obliterans. 1m J Surg 1933 xiv, 4 9.

The author discusses the causes, clinical manifestations, pathological changes, diagnosis, and treatment of thrombo-angultis obliterans. He traces the development of the accepted theory that the characteristic nathological changes are an inflam maton, reaction extending through the well of the vessel with a secclated thromhods and later organiza tion and canalization of the thrombers. He states that the artery yeln, and nerve may be hound together by extension of the chronic inflammatory reaction through the vessel wall. Even the year pervorum may about perivascular collections of lymphocytes. Attention is called to the important development by the unaffected vessels of a collateral circulation to carry the blood flow to the distal part past an obstruction in one of the main

The symptoms of thrombo-nagilitis obliterans are due to inchema plus the effects of migratory phiebits. Intermittent claudication cooliests and rubor of the foot excessive blanching on elevation of the extremity with a tardy return of the normal role to the foot, trophic changes, absect or a decrease of the polastions, and pain on rest are temporant signs of the disease. It is generally pain which causes the patient to seek treatment, in typical cases recognition of the condition is not difficult if all of the symptoms are kept in mind but the consideration of individual symptoms alone and without recognition of their directatory basis leads to such diagnoses as multiple neutrits and

epidermophytom. There is no specific method of trestment. Conservative treatment should always be tried until the progress of the discuse demands radical meas-Amoutation should be delayed as long as possible although in individual cases economic con siderations enter into the decision. The therapeutic measures most commonly used are described briefly The author believes that the intravenous administration of fluids is illorical. In some cases, typhold vaccine administered intravenously in courses has given encouraging results. However it has important disadvantages and does not prevent rapid progress of impairment of the circulation. Injection of the peripheral nerves with alcohol, as described by Smithwick and White, is a procedure of great value to relieve intense pain. \ asodilatation is accomplished most satisfactorily by lumber ganglionectomy. The author emphasizes the importance of selecting cases for operation on the basis of the vasomotor index. As the essential lesion is occlusion of the vessel rather than a functional space he warms against expecting too much benefit from operations on the sympathetic nervous system. Amputation is still necessary in cases of progressive gangrene. W J Music Scort M.D

Goeset A., Bertrand, I and Patel, J r The Treat ment of Arterial Embolism of the Extremities. A Critical Study (Le tryitement des embolies artérielles des membres. Etude critique) J és chir 1933 til.

The authors review the circumstances under which embolectomy and atterfectomy are being practiced and the results which have been obtained from these procedures. They draw the following conditions:

r All cases of peripheral arterial embolism are complications of a primary cardiovascular disease.

2 All emboli usually lodge in dangerous moss, at the level of major bifurcations of the arteries or at the origin of large collateral arteries.

3 All emboli cause changes in the wall of the artery at the site of lodgment and then enlarge by causing further thrombods.

4. All emboli that become lodged in peripheral arteries bring about complications, the course of which is variable but usually serious.

The pracipal object of surgical treatment is to reestablish the dreulation and thus prevent or limit gargene. Thembotripsis is considered illogical and generally ineffective and amputation should be done

only after all conservative measures have failed. The difficulty of localizing the site of localizest of the embolis is emphasized. Motor and sensory disturbances furnish only uncertain localizing signa. The oscillometer shows only gross changes. The most accurate information is obtained by palpation

of the peripheral pulses and arteriography.

On the basis of a comparative study of the value of embolectomy and arteriectomy the authors summarize the disadvantages of embolectomy as follows.

1 The technical difficulty of the operation.

The technical difficulty of the operation
 The need for absolute ascenda.

3. The speed and accuracy with which the operation must be done.

4. The danger of damaging the intima of the ar-

5. The persistence of the diseased artery after the embolectomy which may give rise to secondary thrombosis.

Obliteration of an artery causes changes in the nervous plenuses in the adventitia of the artery, and the repeated irritation causes, in the perpeary vasometer disturbances, usually of the vascostrictor type which may further embarrass the characterial circulation (Lariche). In two animals the

authors were unable to note beneficial effects from periarterial sympathectomy or the chemical sympathectomy of Doppler

The advantages of arteriectomy over embolectomy

(arteriotomy) are summarized as follows

The operation is easy to perform.
 There is no need for special surgical precautions.

3 Compression of the artery is not necessary one cause of intravascular clotting or focus for abnormal vasomotor stimulation being therefore clumbated.

Clinical and experimental evidence is cited to show that artenectomy may give excellent results.

There is some disagreement as to when arterectomy is indicated. Crégoire believes that the embolus produces important lessons in the endothelium of the artery and thus predasposes to the formation of a new clot. Therefore he is of the opinion that the entire obliterated argment of the artery with its adventuits should be removed at once. Moure believes it is important only to remove the embolus which act as the center of intravascular dotting and that consequently resection of a short segment, which includes the part of the artery damaged by the embolus, is sufficient. Useful collateral arteries are not disturbed by the local arteriectomy

In conclusion the authors state that embolectomy is fudicated in cases in which the embols has lodged at the bifurcation of the aorts, external illac arter ics, or similar large arteries. Attenectomy is indicated in (:) cases in which it is necessary to act quickly because of the patient's poor general condition (Leriche) (3) cases of embolectomy in which the endothellum of the artery appears greatly siltered after the embolis has been removed (Leriche) (3) cases in which local changes make proper subrung of the artery questionable (Moure) and (4) cases of impending gangrene of the extremity in which embolectomy has fielded to give relief.

MONT R. RED M.D

BLOOD TRANSFUSION

Gramo: Ra-Infusion in Haemoperitoneum from Nounda of the Liver (La reinfusione negli emoperitonel da ferita del fepato) Clim. chir., 1932 vill, 1305

The author reviews the history of re-injusion of the patient's own blood in the treatment of disease and reports his experiments on dogs in which blood from injuries of the liver was re injected. His experiments abowed that in simple wounds of the liver re-injection gaves excellent results when it is done within six hours after the lingur. Even when the hile ducts were also injured and there was a considerable admixture of hile with the blood the re-injection caused no harm. The acute anemias was overcome without causing any general disturbances or any pathologoral changes in the blood.

A number of cases in which re-injection gave good results are cited from the literature. In two

cases in which it was done more than six hours after the injury death resulted from heart fellure Blood should not be re-injected if marked hemoly sis has taken place.

In conclusion Grasso says that as the results of direct translusion from donors whose blood groups have been determined are so satisfactory re infusion is indicated only in emergency cases in which there is no time or opportunity for direct translusion.

AUDRRY GOSS MORGAN M D

Stetson R. E: The Causes and Prevention of Post Transfusion Reactions. Surg Clin Vorth Am 1933 xill, 319

Post transfusion reactions may be divided into two main classes (1) hemolytic, and (2) proteolytic. Stetson screes with Kordenat and Smithles who

any There accums to be no reason why if proper apparatus and sufficient technical shill are at hand anything but whole blood should be employed in transfusion. The plea of expedience and speed should be no excuse for the use of blood altered by the addition of various salt solutions. If transfusion is really needed to insure clinical benefit hood in its most efficient biological form should be employed and the operation of transfusion should be carried out with the greatest care.

The hemolytic reactions are of the following three types

times type

Those due to coagulation from incompatibility (mistakes in grouping the presence of active minor iso-agglutinins incompatibility of the white cells)

2 Those seen after the transfusion of individuals suffering from certain pathological conditions in which there is a very active hemolytic agent at work. The latter may appear in periodous anemia purpura, hemolytic jaundice leukemia, and sepais Reactions of this type can be neither foreseen nor avoided, but the possibility of their occurrence should be kept in mind so that prompt measures may be instituted to counteract them if they should occur.

3 The toxic effects of sodium citrate on blood or early congulation changes following the use of the

sodium citrate method.

The majority of reactions due to incompatibility are manifested quickly after the introduction of even small amounts of blood. Therefore if the opera tor is familiar with the danger signals he will be able to stop the transfusion and institute restorative measures in time to save the patient's life. Stetson knows of a death resulting from the introduction of as small an amount as 40 c.cm, of blood. The first symptom of a reaction due to incompatibility is usually severe pain in the lumbar region of the back. This is quickly followed first by flushing and then by paling of the skin, profuse perspiration dyspuces cyanosis, failing pulse and dilatation of the pupils. Very often the patient believes he is dying. These acute symptoms are usually followed in a few hours by the appearance of blood, albumin and casts in the urine and sometimes by anuria. A blood examination will show further evidence of scute hemolysis. Usually if the transfusion is stopped promptly and advenalin is administered hypoder mically in 15-minim doses every fifteen minutes for several doses, the patient will rally. This type of reaction is usually followed by a sharp chill and a rise in the temperature. Atropin, 1/150 gr com-bined with from 14 to 14 gr of morphine will be beneficial and will render the nationt more comfortable.

Errors in blood emersing may be due to an inexperienced laboratory worker, intern, or medical student carelessness in providing fresh serum or protecting it from bacterial contamination, a marked variation in the applicating power of the sera necudo-agriculmation, auto-agriculmation, or cold

gelutination. Proteclytic reactions are of the following three

1 TOPE r Febrile reactions with or without chills and unaccompanied by any other symptoms. Of a coo transfusions, so per cent were followed by a febrile reaction, and 5 per cent of the febrile reactions were accompanied by a chill.

2. True numbels reactions of sensitivation estdenced by dermal reactions of erythema and unicarls. About to per cent of all individuals show this type of reaction to some degree. Adrenalis is the medicament of choice

a Anaphylactold reactions resembling true anaphylactic shock. Three cases are reported in detail. The fremency and severity of other reactions may

be reduced by

r The carrying out or supervision of srouting and compatibility tests by carefully and thomashly

trained persons.

2. Further investigation of white cell incomnatibility

1. The avoidance of methods which may involve toxic or early compilation changes in the donor's blood, such as the citrate method

4. The use of fasting donors for subsequent transfusions in cases showing febrile reactions or protein emeltization

s. Skill in operative technique sufficient experience to recognize danger signals, and familiarity with the measures percentry to combat serious resc tions promptly CHARLES BARON M.D.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Cutler E. C., and Zollinger R.: The Use of Scierosing Solutions in the Treatment of Cysts and Fistules. Am J Surg., 1933 xix, 411

In reviewing the use of chemicals in surgery the authors call attention to the earth treatment of cervical fistule by irrigation with cauterizing fluids. Expenients carried out previously had shown that ferrir chloride-Carnoy fluid in the most efficacious sclerosing agent which can be used on living tissues. This consists of 6 c.cm of absolute alcohol 6 c.cm of chloroform, 1 c.cm, of glacial acetic acid, and 1 gm of ferric chloride. It produces rapid fixation with excellent hemostass and causes less reaction in the surrounding tissues than formalm or Zenker's fluid.

Three groups of cases representing different conditions in which a sclerosing fluid may be a valuable therapeutic agent supplementing the use of the scalpel are discussed. In the first group the ferric chloride Carnoy fluid was applied to gliomatous cysts of the brain. No unfavorable effects were noted and excellent hermostask was obtained.

In the second group three cervical fatule were injected with sclerosing solutions. The fittule were visualized with lipidolo or a concentrated solution of sodium bromide. As a rule a small sinus tract was found leading from the firtuous opening in the visual rule of the tonsil. The scler oring fluid was injected through the tract several times, the threat being protected with outlon and the cutaneous opening protected with vaseline or sine oxide. The fistulous tracts were soon obliterated a difficult operation therefore being avoided.

In the third group of cases the ferric chloride Carnoy fuld was applied to pilonidal sinuses. The sinuses were exteriorized under local ansesthesia and the fixative applied to their walls for an average of ten minutes. The next day the fixed tissue was curretted away and the sclerosing agent re applied until the wall of the sinus was entirely removed. The cavity was then packed and allowed to fill from the bottom with granulation tissue. Three cases with successful results are reported.

Garlock, J. H.: The Full Thickness Skin Graft inn Surg. 1933 20vil, 250.

As the success of a full thickness skin grait depends largely upon an almost perfect aseptic technique a grait of this type should be placed only on a fresh surgical wound and should not be used for granulating wounds. Its indications are therefore limited to the correction of defects of the skin and subcutaneous tissues immediately after the surgical excision of

pathological lesions or of creatrical contractures caused by burns or traums the prevention of commetic defects or contractural deformities follow ing plastic or destructive operative procedures, the replacement of skin following the excision of surface tumors or blemishes, the furnishing of skin for the clefts in the operation for congenital or acquired syndactylism and the replacement of hair bearing skin such as that of the eyebrows.

In the selection of the type of skin graft to be used in a particular case the surgeon must consider a number of factors There are numerous conditions in certain parts of the body which require for their correction more underlying than a full thickness graft can supply Under such circum stances, the pedicled skin flap offers greater possi bilities. On the back of the neck and on the forehead face, and parts of the torso the full thickness graft can be used with excellent chances of success. How ever this form of graft finds its greatest field of use fulness in surgery of the extremities. In addition to supplying adequate tissue it has the added ad vantage that it can be applied in a one-stage procedure. It will not unite to bone unless a layer of periosteum is present. On the flexor surfaces of the fingers it will very often not succeed if it is placed on exposed tendons. An intact tendon sheath is most desirable. Other factors to be considered in the use of a full thickness graft are future shrinkage, changes in color the formation of heavy scars at the edges, and the growth of hair

It is probably wiser to excise a cicatua completely than merely to make relaxing incisions. In surgery of the extremities the use of an Esmarch bandage permits more rapid excision of the cicatua and greatly diminishes tissue trauma. After excision of the scar the Esmarch bandage is removed and bleed ing is controlled. The capillary bleeding that always occurs can usually be controlled by having an assistant apply firm even pressure with warm sponges while the graft is abeling removed from the donor site. Before the graft is applied the wound should be absolutely dry. This is probably the most important feature of the operative technique.

A pattern accurately reproducing the aise and shape of the wound is next made. The author has been using still pareiin nesh gauze as the perforations in the gauze sid visualization of the underlying wound while the pattern is being cut. The pattern is laid on the akin with the epithelial surface up and the outline is accurately method out with the pont of a toothpick dipped in methylene blue or brilliant green solution. With the use of a very sharp small knill the painted outline is then included down through the full thickness of the skin. In the belief that any form of traums however slight, will lessen the chances for

a successful take, the author uses a technique in which grasping of the graft by instruments is avadied. Although this procedure is rather tedlous, it is justified by its results. A thy book is made to catch one corner of the graft and, with this as a tractor, the cutting of the graft is begun. As the removal of the graft proceeds, additional hooks are placed at cardinal points to farifitate the operation. The undersurface of the skin should be free of fat and show white and tipped with they depressions. After the placed, the graft, still held by one or two hooks, the standard of the standard one warm, moder aware odd.

The grait is next placed in the wound bed with care to fit it according to pattern. Because of the care taken to obtain hemostasis, perforation of the graft is often unnecessary. If hemostasis is in complete perforation is indicated in order to prevent the formation of blood dots beneath the graft. The latter compilication is one of the root common conse-

of necrosis

With the use of time skin needles, a few mitures of fine horsehair are placed at cardinal points to anchor the graft in place. The remaining edges are anproximated with a continuous stitch of born-hair Accurate apposition of the skin edges is important It makes for a nexter scar and an additional source of blood supply during the first eight or ten days. After the graft has been anchored the entire surface is covered with three thicknesses of gauge im pregnated with 1 or 3 per cent xeroform ofntment Blair recommends the use of this ointment because it is supposed to be antagonistic to staphylococci which are present in akin and akin grafts. The gause with the cintment is covered with several thicknesses of smooth gauge and over the latter a large moistened rubber bath sponge is placed. A sterile bandage is then firmly applied. Considerable skill is required to apply the proper amount of pressure. If the pressure is too great ischemia and death of the graft will re mit and if it is insufficient the graft may be iconardized by blood clots.

Substitute furnishment of the gratical area during the period of beiling is most doctrable especially in supery of the extremities. The use of splints to immobiliar continuous joints greatly increases the lateflihood of a perfect "take." In the covering of defects on the hand and fingers, furnion is obtained best by the use of splints made especially for the individual case. These are cut out according to pattern from rigid theet aluminum. They are sterillized and amplied at the operating table. They should be worn

for at least three weeks.

The wound formed by excision of the ikin graft may be closed by undermining the edges and approximating them with silk come gut satures. If tension is present, secrosis of the edges may evolded by making numerous small releasing in cisions in the ikin surrounding the satured wound. This procedure has proved most valuable. If the defect is a large one, it may be partially closed and the tensinglest then covered with Thirem, but the

If the surgeon is artified with the asspits of the operation the control of bleeding and the fration of the grafted area, he need not disturb the dressing for from two to two and a half weeks. If the pressure dressing is removed too carly biliters form on the surface of the graft and are proce to infection. The latter complication predisposes to ubcration of the graft. The pressure bandage should be maintained for a period of about three weeks, whereas the in mobilizing splint may be discarded after the third or the predistribution of the predistribution of the predistribution of the prediction of t

Overbolt, R. H. and Veal, J. R.: The Incidence Character and Significance of Absormal Physical Signs in the Chest Occurring After Major Surgical Operations. *Ten England J Hol* 1931, cctill 1-19.

The anthors report a study of the physical siens which occurred in the chest after operation in a series of 200 cases with no abnormal nec-operative physical stems. One hundred of the patients had as abdominal operation and 100 an extra-abdominal operation. All types of apprathesis were used. By far the erester number of changes in physical signs in the chest were found in the cases of abdominal operation. They consisted of a reduction in chest expansion elevation of the disphraem, a decrease in resonance at the bases with a decreese in the breath sounds, and an increase in resonance in the upper anterior chest with an increase in the breath sounds. In as per cent of the cases of abdominal operation there were persistent rales. In sa per cent, areas of tubular breathing were found and as a rule were noted on the second or third postoperative day More abnormal chest signs were present after opera tions on the upper part than after operations on the lower part of the abdomen. Rales occurred more frequently after general anguithesia while areas of tubular breathing were more common after spins anasthesia.

These signs are consistent with the reduction of Delmonary ventilation following the splinting of the shodenian lunacies and clevation of the disphase and the shallow respiratory excursions after the dominant operations. While ordinarily into power of the contract of th

only one or two days.

The authors point out that even in the presence of the surface of consolidation eiter operation there are froquently no constitutional evidences of infection and the subsequent course suggests an uncomplicated convisionness. May F. Maries, M.D.

Banash J L. and Carter G O Researches in Orygon Therapy Equipment; Some Aspects of the Mechanical Phases of Oxygen Therapy Apparatus. And & Anal 1933 xii, 52

Equipment for oxygen therapy is so improved that oxygen therapy is now available quickly and at a reasonable cost. Oxygen can be given in a cham ber or tent, by nasal catheter or by face mask. The capacity of the tent varies from 20 to 50 c. ft. Circulation of the oxygen in the tent is obtained by means of a motor or is a thermal circulation. The authors emphasize the importance of proper selection of equipment, its utilization to the fullest extent its maintenance in proper condition, and close observance of rules for safety.

GEORGE R. MCAULIFF M.D.

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Penick, R. M., Jr: The Treatment of Burns, with Especial Reference to the Use of Gentian Violet. Internat Clim. 1933, 1, 31

Penkk divides the symptoms of severe burns into those due to shock, blood changes, infection and other complications. In the initial stages several processes blend into one another. The treatment must be directed toward combating the various

pathological processes at work.

The first consideration is the treatment of shock. The shock due to a burn in no way differs in cause or indications for treatment from shock produced by other forms of trauma. Associated with or come quent to the shock is a change in the blood. This is manifested by a rise in the hemostobin a relative increase in the formed elements, and an increase in concentration. These changes are due to ashly dramia. As much as 70 per cent of the total blood volume may be lost through the burned area in twenty four hours. The greatest disturbance of fluid balance occurs in the first three or four days this being therefore the most cruical period.

The so-called toxemia which occurs within about twelve bours after the burn is due to anhydramia and infection. Bacteria become increasingly numer ous after twelve bours. Infection is definitely established in about three days. The streptococcus predominates over other organisms. The rapidity of the bacterial invasion makes it an early rather than

a late complication

Because of these facts three processes take place affects a severe burn. The initial shock merges with the period of blood concentration which in turn may last well past the time when infection is established. Thus the treatment must combat shock, correct blood concentration, and prevent infection

In the author's cases of extensive second-degree and third-degree burns the patient is hospitalized given a large dose of morphine, divested of dothing wrapped in a sheet and placed on sterile sheets covered with a cradle heated to from 85 to 95 degrees F by electric lights. Fluids are forced by mouth

Anhydramia is checked by the administration of normal salt solution by proctoclysis in doses of 250 c.cm. every four hours, by subcutaneous infusions or by intravenous administration. For the laster. normal salt and a 5 per cent dextrose solution are used by the continuous or intermittent method. As a rule the maximum amount desired is 100 cubic centi meters per kilogram of body weight per twenty four hours. Dirt and grease are removed from the skin if this can be done without trauma. The burned area is sprayed with a 1 per cent aqueous solution of gen tian violet every two hours until an eschar is formed. This requires from eighteen to twenty four hours. Gentian violet is preferred to tannic acid because it has a marked bactericidal action and does not injure the normal tissue

If the patient survives the initial period and an exchar is formed, efforts are directed toward the promotion of early healing. The coagulum is protected and measures are taken to improve the general condition, prevent anemia and guard against infection. If the eschar does not separate spontaneously it may be removed at the end of about three weeks. Thus is best done by softening a small portion of it with compresses and increasing the softened area daily In this way severe reactions are prevented.

Contractures are decreased by early healing, early grafting of raw surfaces, and early restoration of function.

HERMAN E. PRABER, M D

Dolman C E.: Treatment of Localized Staphy lococcic Infections with Staphylococcus Tox old J Am M Au., 1933 c, 1007

The toxigenic properties of the staphylococcus have been the subject of renewed interest since the report in 1928 of the Royal Commussion of Inquiry into Fatalities at Bundaberg the deaths of twelve children following the injection of a diphtheria toxin autition miture contaminated with staphylococci.

It has been demonstrated that under proper environmental conditions, certain strains of staphylococci will produce a true exotoxin the effects of which on cells and tissues are specific and highly de structive. To obtain active immunzation of patients with staphylococci infection against the staphylococci notion Dolman set out to prepare a staphylococcus toxold by adding a solution of formaldehyde to staphylococci toxins in a manner similar to that previously described by Burnet and others. After its use under rigid control and with stringent tests on animals, the toxold was used in clinical cases.

Dolman reports twenty-eight cases of intractable staphylococus infection which were treated success fully by a series of injections of the toxoid, and thirty cases of various kinds now under treatment, the majority of which have shown remarkably beneficial effects. Cases of recurrent boils invariably responded to the treatment. Pustular acno and furum culosis were quickly cured. As less than a year has alapsed since the first cases were treated, it is too soon to make any definite statement regarding the duration of the immunity gained

The toxoid was produced by adding to the staphy lotoxin a 0.3 per cent solution of formaldehyde (U.S.P.). The toxins were obtained by the method praviously described by the author from toxigenic strains recently isolated from staphylococcic lesions in human before.

The turnid was injected subcutaneously in a slowly increasing dosage at intervals of from five to seven days. The initial dose of o.o.; c.m. was given subcutaneously into the term, and successive doses of o.t. o.r.; and o.z. c.m. were given at intervals of from five to seven days. Four doses were usually given in the first series of injections. These were untilly supplemented by a further series of four or more larger doses. The patients were required to report at monthly intervals in order that it might be accretiated whether or not they were free from recurrence of the infection and in order that a specimen of blood might be obtained for estimation of the clocalistic autitoria.

In every case the clinical signs of primary staphy lococcus infection were confirmed by isolation from the infected site of the toxigenic staphylococcus in pure or almost pure culture.

The treatment is expected to be useful in all types of staphylococcus infections, including bolls, car buncles bone abscraces abscraces of the deeper tissues, and sinusith.

C PAC LAROSOF. M D

ARESTHESIA

Sington H. Some Practical Points Applicable to Angesthesia in Children. Practitieser 931 Crcs,

The forcible induction of american cause a considerable amount of psychic trains to children, particularly those with a high-string disposition in an attempt to excident the disadvantages of meetheds with safety various drugs have been used as premedication. To be safe a drug so me must have no depressing action on the respiration, beart, or blood present gradion on the respiration, part, or blood present gradient or affect the lineary, and must be easily eliminated without higher productions.

to the tissues.

Pandichyde (CdH₂O₂) is advocated as the drug which fulfills all the requirements for safety. It is a powerful hypototic without any unpleasant after effects. It acts quickly it somewhat strengthens the heart. It has no effect on the respiration or the gastro-intentinal tract. It is a mild discretion of the gastro-intentinal tract. It is a mild discretion of the gastro-intentinal tract. It is a mild discretion of the gastro-intentinal tract. It is a mild discretion to the same properties of the same properties of the same properties of the patient is uncarret that his breath scale of it. It is should be kept in a cool, dark place as otherwise it may discretize with the formation of glacial accrite cald.

Because of its unpleasant taste it should be given by rectum, 1 of in 1½ or. of should not suite. It is involuble in oil and should not be used with oil. The desage should be 1 dr. to each 14 lb. of hody weight, and the mixture of paradehyde and water should be warmed to a temperature of from 92 to 94 degrees F before its injection. The injection should take from fifteen to twenty mimites.

The ideal plan is to allow breaklast and morning plan as usual in order to permit the occurrence of a normal movement, give the paraklehyde at noon, give a hypodermic injection of atropin at r p.m., and operate at a p.m.

The Meal ansestbette is a mixture of ethyl chlorida and send-cologue sprayed onto the usual fixer-piece. The face-piece should be held away from the tace to allow anesthatisation of the buccal merosa. After about no breaths, the face piece may be applied to the face and the annesthetic increased. Ether may then be substituted and the child removed to the operating room.

The domine of attorn should be varied according to age as follows up to six months of age 1/400 gr from six to twelve months of age, 1/100 gr from one to two years of age, 1/150 gr and over two years of age, 1/100 gr

After the operation the child is likely to sleep for from six to twelve hours. He will then awaken for a drink and go to sleep again for from six to eight hours.

According to the author's experience in over 6,000 cases, the ethyl chloride combination recommended is absolutely safe. The primary essential is a free air way. The only difficulty is caused by contractions of the muscles attached to the jaw and temporary inhibition of respiration. The respiration starts again in a few seconds, and further ishalation of ethyl chloride will cause the masseters to relax. Amenthesia can then progress as usual Three absolut he no strungling with the jaw during

the tonic contractions. Ethyl chloride is superior to nitrous oxide for dental cases. The open mask held away from the face is much less alarming than having the face covered with a rubber mask and allows plenty of air thereby making the administration of cayets nunccessary. When the third stage is reached, respiration is deep, even stertorous, the pupils are widely dilated, and the cychalls are usually rotated downward. At this stage analyssis is complete for a few minutes and the face-piece may be removed for minor work. For tonaillectomy a bellows appare tus with air passed through an ether bottle is net essary To prevent freezing, the internal diameter of the tube should not be less than 14 in. The h duction of deep angesthesis by other with the mouth open is thus made possible. E. S. PLATE MD

Gruesco, T. and Dragos, A.; Some Considerations on 8,666 Spinal Americans (Oocique considerations sur 8,000 rachiamenthésies). Lyra chr. 1933. XXX, 48.

The authors review their expenence with more than 8,000 spinal ansesthesias induced during the hast twenty-hire years in the Military Hopful it Galata, Roumania. They used stovaine in 4,900 cases, novocain in 3,300 cases and syncaine and inteclude in 200 cases.

For hemiotomies they regard spinal anesthesia as superior to local anesthesia because it reduces the length of time required for the operation, it gives perfect muscular relaxation and quietness of the abdomen and it reduces the chance of suppuration. Hemile, eventration, and other conditions of the abdominal wall constituted 75 6 per cent of the case revered.

The authors have employed spinal anesthesia with great satisfaction for all types of abdominal surgery and for operations on the gentlied organs the anopenheat region, fractures and dislocations of the lower extremities, sympathectomics, and amputations. They tried it also for operations on the head, thorax, and upper limbs but abandoned it in favor of local aniesthesia because of severe reactions.

They regard novocain as the anesthetic of choice. They state that it should be given fairly rapidly and that the patient should lie down at once. With regard to the prevention of headache they emphasize the importance of care to prevent loss of spinal

fluid and advise the application of cold compresses to the head.

During the amesthesia, nausea and vomiting occur in from 5 to 10 per cent of the cases. Cardiac and circulatory disturbances such as brachycardia, coldness of the extremities, pallor and feeble pulse occur occasionally. Respiratory difficulty is absent except in high anesthesias.

Following the anestheria, headache may persist for two or three days. In rate cases, vomiting occurs during the first forty-eight hours, and occasionally difficulty may be experienced with the bladder spilinter: Paralysis of the spinal nerves occurred in only 1 of the authors cases and in this Instance hatted six months.

Among the generally recognised contra indications to spinal anesthesia are hypotension shock, septicemia tuberculosis and uremia. The authors believe that anisathesia of this type is contra indicated also in (1) the cases of women and children, because of their emotional instability and the difficulty of getting them to remain quiet and (2) the cases of persons with acute or old lesions of the central nervous system.

MARSH W POOLE, M.D.

SURGICAL INSTRUMENTS AND APPARATUS

Clock, R. O. The Fallacy of Chemical Sterilization of Surgical Catgut Sutures: with Particular Reference to the Use of Copper Salta Pepper mint Oil and Mercury Surg Gyme & Ohn 1933 194, 149

In the investigation herewith reported which extended over a period of two and a half years several thousand catgut satures were prepared from 334 lots of catgut. In addition, 154 commercial tota of catgut purchased in the open market were studied. In an attempt to bring about chemical sterilization, the catgut was treated with 27 chemical compounds under a wide varnety of conditions. The vanous chemical treatments were applied to catgut ribbons raw catgut strings and artificially infected catgut. Throughout the investigation the standard bactenological test devised by Melency and Chat field was used and supplemented by 3 controls

The results proved quite conclusively that all chemical sterilization procedures are inefficient. In no case did any of the chemicals or combinations of chemicals employed render the catgut entirely free from living bacteria. The author concludes that the only uniformly reliable and positive method of sterilizing catgut sutures is carefully controlled heat sterilization. He states that such sterilization does not impair the tensile strength of the estigut

ELIZABETH CRANSTON

PHYSICOCHEMICAL METHODS IN SURGERY

ROBRIGEROLOGY

Pancoast, R. K.: Roentgenology of the Pharynx and Upper (Esophagus. Am J Caner 1933, xvii, 373

Among the indications for roentgenological examination of the pharynx and upper ceophingus are foreign bodies, neoplasms, inflammatory conditions, paralysis injuries, and anomalies. Foreign bodies are discussed by the author only with regard to differential diagnosis.

Roentgen diagnosis of the pharynx and upper emophagus is rendered possible by the following facts

1 The soft tissues of the neck surround a more or less open, air-containing space above the cesoph agus, comprising the oropharyna, pharyna pyriform sinuses, and laryna.

2 The structures which bound this space cast definite shadows and can therefore be differentiated

by contrast

1. The air space may be encroached upon or displaced by inflammatory swellings or neoplasma. 4. The structures bounding the space can be appreciably and characteristically altered in appear ance or displaced by the same processes.

5. A certain normal range of movability of many of the structures can be determined and institute or restriction in movement can be detected by finor oscopic observations. These structures include the soft palite and uvula, the tongue the laryna, and the asytenoid cardiages.

 The collapsed potential space of the upper cesophagus can be filled with an opaque medium to

outline its lumen and location.

7. The dense cervical spine with its fixed relations serves as a means of estimating displacements and the comparative measurements of spaces, their locations, and the thickness of their walls.

The manner in which these various factors may be made to furnish valuable information relative to both normal and abnormal conditions in this region is discussed in detail. The act of swallowing

is given special consideration, and specific pathological conditions are described at length.

Appears HARTUNG, M.D.

Armand Deillie, P. F., and Lestocquoy C. V. Ray Appearance and Types of Evolution of Tuberculosis of the Trachasobrouchial Gands (Arpects radiologiques et types evolutifs de la therculose des gaugitoss traches-broockiques). Perss 8/N. Par. 101 311, 173.

The authors call attention again to the fact that the X-ray has made a great change in the diagnosis of tuberculosis of the tracheobroschial glands, but that it is only by means of both anteroporterior and lateral roentgenograms that enlargement of these glands can be determined accurately

In the first part of their article they review the anatomy of the glands and emphasize their relationship to the great vessels, the heart, the trackes, and the bronchi. Five groups of glands are differentiated. (1) the right paratracheal glands in front and to the right of the traches which, if enlarged, produce a shadow in the right parasternal region where they show clearly against the lung field, (2) the left para tracheal glands, enlargement of which is manifested by exaggeration of the shadow of the sortic arch or deviation of the traches to the right (3) the right interpropehlal glands, which are directly visible at the right border of the heart, but must be distinguished from shadows caused by lesions of the hung parenchyms remote from the hills (4) the left inter bronchial glands, which lie directly behind the heart and can be made out only in an oblique reoutrencgram unless they are greatly enlarged and (5) the mediastinal group, which are entirely invisible in anteroposterior roentgenograms, but can be made out with precision in lateral roentgenograms.

Pathologically two types of involvement of these

glands are distinguished

1 Tuberculous infiltration. The authors have observed this type of involvement in a number of patients dying of intercurrent disease. The glades are as large as an almond, pink, and of the constitute of the

2 Massive caseston of the broughtst glasds, characterized by large masses of yellowish white caseous material. All of the groups of glands are caseous to an equal degree. In association with soft glands the primary focus in the lung is large, caseous, and poorly direamenthed scattered military to-berdes are found, and often a tuber-culous mentaging.

is present.

Corresponding to these two pathological types there are two clinical types, the first regressive, and the second progressive and fatal. The first is disk nosed from a history of lamily exposure, positive skin tests, and characteristic V-ray shadows. Telassical signs of enlargement of the brenchial set mediastical signs of enlargement of the brenchial set mediastical glands are not often present. The condition is found most often in children between ker and seven years of age, and can be followed through the various stages of healing. The second difficult to various stages of healing. The second difficult is the condition of the condition of the conditions of the conditi

type occurs usually in nurshings or very young infants as a result of massive inoculation from inmate comtact, such as with a tuberculous mother Occasionally it is seen in older children, but in the latter the glands are not so large and do not show such extensive caseation as in infants. It is characterized by a progressive loss of weight, irregular temperature dehydration, enlargement of the spiem, and the characteristic state of the procedure of the instance of the transition of the tubercles. Calcification of the glands with recovery is rare.

In conclusion the authors state that the prognous can be determined only from a consideration of the clinical picture and a series of roentgenograms made over a period of weeks or months. They advise care ful watching of the children, preferably in a sant tardium.

Marin W Poors, M.D.

Balestra, G., and Blatolfi, S.: The Indications for Y Ray Examination in Traumatic Lesions of the Line of Hafrane (L'indignie radiologies nelle lesioni traumatiche della linea di Listrane) Radiologies, 2013, 123, 22, 131

In 27 103 X ray examinations for traumatic lesions of the skeleton the authors made 5,460 examinations of the feet. The latter revealed 2 507 skeletal leasons of the feet, 30 uncomplicated dislocations and subluxations 85 dislocations and subluxations for dislocations and subluxations for such a state of the state o

The fractures of 1 or more bones of a single seg ment of the foot were located as follows tarsus 227 metatarsus 479 and phalanges, 1 101

In 2007 patients there were 5 675 fractures located as follows calcaneum 200 astragalus 73 navicular bone, 13 cuboid bone, 17 cuneiform bone 39 metatarsais, 978 and phalanges 4,255

The authors discuss the anatomy and the variations in the position of the foot bones in the various positions of rest, walking and running including the long arch of the foot on its outer and inner aspects and Listranc's joint at the tanometatarsal union

A summary of the article states that from a review of the literature on traumatic lesions of the line of Listrane and from their own observations the authors conclude that it is not sufficient merely to consider the multiplicity of injuries to explain the great variety of such lesions. A study of the stations

dynamic equilibrium of the arch of the foot should include the innumerable states of equilibrium often involving minor changes which are passed through by the foot in its many movements.

The authors discuss the different types of fractures and luxations, particularly the less striking lesions which require a careful X ray examination for their demonstration. Of the latter they call attention especially to medial authoration of the great toe, which is quite frequent. This is characterized by distants between the first and second cunciform and the bases of the corresponding meta-tarsal bones which often can be determined only by a careful comparison of roentgenograms of both feet. The functional and medicolegal importance of this lesion is emphasized.

The technique of X ray examination of the foot is described briefly and the principal causes of error or doubt in the diagnosis, especially the various accessory and sessamed bones which may be encountered are discussed.

KRILOG SEREO M D

RADIUM

Becchini G Radiotherapy of Laryngopharyngeal Tumora (Sulla radioterapia dei tumori laringofaringel) Actinomagio 1932 x 111

Becchini reports fifteen cases of laryngopharyngeal tumors treated at the Benito Mussolini Hospital, Alexandria, Egypt. He states that radiotherapy is useless for such tumors. It is unsuccessful in comparatively early cases as well as in those with metastases. In the cases reviewed, the Y rays and radium were used alone and combined. Radium was employed most frequently 'not because to its specific action, but because to best fulfilled cer tain theoretical requirements and its use seemed to be followed by fewer complications.

The technique of treatment, the dosage and the avenues of approach were varied, but the results were almost uniformly discouraging. In several cases radium was applied directly to the lesion but even when this was done the incidence of cure was not increased. Fourteen of the fifteen patients died within twenty two months. In the case of the remaining patient the treatment was given too recently for the end-result to be known.

The author's experience corresponds to that of other laryngologists and radium therapists.

GEORGE C. FINOLA M D

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIO-LOGICAL CONDITIONS

Van Rooyen C. R.: A Biological Test in the Diag nosie of Hodgkin's Disease Brit M J 1933, i. 644.

Van Rooyen reports five cases of Hodgkita siderase. In three, the reaction to Gordon a biological test was positive in one it was donbiful, and in one it was negative. Van Rooyen concludes that Gordon a biological test affords an easy method whereby lymphadenomatous tissue may be differentiated from Irmphosarconatious, leukemite, and tubercu ious tissue and therefore may be used as a haboratory sid in the diagnosis of Hodgkin a disease.

MANUEL E. LICHTEMETER, M D

Gordon, M. H.: Hodgkin a Disease. Brit. M. J. 933 4, 641

Gordon reports on a nathogenic agent-appar ently a virus-which is associated with lymphadenorms. This agent was demonstrated by injecting into the brain and the marginal ear vein of rabbats a suspension of the ground pulp of a gland. After from two to six days the rabbits showed symptoms of meningo-encephalitis, muscular rigidity incoordi nation, ataxia, and spastic paralysis. As a rule death occurred at the end of about ten days. Some of the rabbits, however, recovered slowly and when recovery was complete were immune to a second dose of the injected material. Postmortem examination of the rabbits that died showed no characteristic changes except marasmus and some congestion of the meninges. The injection of similar suspensions made from glands in cases of leukemia, sarcoma, cardnoma, tubercles, and chronic adenitis failed to produce the characteristic meningo-encephalitis.

Morphologically minute deep staining spherical granules could be made on by intensive staining of films after they had been saitably fixed. Similar minute bodies have been seen in impression preparations and in smears made from the cut surfaces of the borins of rubbits that succembed to intracerebral injections of suspensions of lymphatenoma gland. No cartain growth of this pathogenic agent under either agrobic or anastrobic conditions has yet been obtained on a sufficient continue media.

Glands dried in a vectorum desirentor at room temperature in the dark and then scaled in a test tube and kept in the refrigerator preserve the agent in active condition for at least six months. There is reidence that exposure to heat produces some alight weakening or attenuation of the pathogenic superite. has been found also that the agent will retain its activity when carboile acid is added to the carbon of M per cent and it is kept for wenty hours at 37 degrees C. When it is refrigerated with phesol it will retain its pathogenicity for at least two week. It withstands the addition of 10 per cent of ther for a variable period, but in the course of time is attenuated thereby. The results so far obtained suggest that the pathogenic agent resists phenol better than ether It can produce an immune serum which will inactivate the pathogenic agent when it is left in contact with a suspension of lymphadenous gland for two hours in a water bath at 37 degree C. The meningeal aymptoms may be produced also in guines pigh, but not in niles.

M UNITED E. LICHTENSTREM, M D.

Leederich I. Marmou H. and Basunchene H.; Mallignant Lymphogramuloma of the Uferst ing Cutaneous Type and Its Rahation to Mycotals Fungoides (Forme cytangs deferme the imphogramulomatone maligne, see rapports vec & myrosis fougoids) Press and Tar., 1011 81, 377

In the French literature the authors were able to find the reports of only three cases of malignant

lymphogranuloma with cutaneous ulcers.

The skin lesions of this condition may precede or follow signs of localization in glands or vicers. They may be of a diffuse infiltrative character or definite tumor masses. They are not confined to any one portion of the body. They vary is afrom those with a diameter of i. cm. to those sings as the paim of the hand. They may be sight or multiple. They are generally round to oval and have a regular sharply defined border. The bar of the alternist covered with a facility grayah credite and bleeds easily when touched. Pain may be

sufficient to cause steeplessness.

In the beginning the ulters increase rapidly is size, but later their growth is slight. They resist all treatment. Death occurs after from four to eight months from progressive cachests or intercurrent

disease.

The lesions must be differentiated from those of tertiary syphilis, tuberculosis, mycoses, cancer of

the skin, and leukemic ulceration.

The authors discuss at some length the similarity between lymphogranuloms and mycosis inagodes as regards the clinical symptoms, gross and histopathological appearance of the lesions, and duration and termination of the discuss. They believe that the two conditions are probably separate critics.

The article includes the reports of a case of lymphogramuloma occurring in a woman. In the case the sith meases were in the right pectoral region and there was involvement of the gland in the right artilla. The patient died eight mostles after the appearance of the ulcers in the skin.

MARKE W POOLE, M.D.

Piersall C. E.: Hypodermoliths, with Reports of One Localized Case and One Generalized Case. Radiology 1933 XX, 164.

The subcutaneous calcareous concretions which the author designates as 'hypodermoliths' have been called also petification of the skin' lime gout, calcareous subcutaneous concrements, calcaneds, 'granular deposits of lime,' 'dchalt gout 'dermal concretions, subdermal concretions,' and gout stones. Piersall classifies them as follows

Localized
 Non inflammatory

b. Inflammatory secondary to pressure, trauma or infection.

2 Generalized

a. Non inflammatory

 Inflammatory, secondary to pressure, trauma or infection.

3 Those consisting entirely or chiefly of calcium phosphate.

4 Those consisting entirely or chiefly of calcium carbonate

Calcium phosphate concretious are found more irrequently in females than in males, and are most common in the first, second, and third decades of life Their formation occurs more allowly, nuns a more prolonged course and tends to be more generalized over the body than that of calcium carbonate concretions. Calcium carbonate con cretions are usually found in the fourth, fifth, and sixth decades of life. They are often localized, and are usually associated with scleroderma.

The mode of formation of these deposits is not understood.

nunctarrooc

The concretions may or may not be surrounded by inflammation and may be hard or soft. They are located chiefly in the subcutaneous tussue and are surrounded by a pseudocapsule formed of connective tissue fibers.

The diagnosis may be made from the findings of roentgen examination alone or in well-developed cases, on the basis of the findings of physical examination and the history. Reentgenograms show small groups of sharply delimited, punctate, streaky, spheroid or manufilisted dentities usually in and just beneath the kkin and insolated positions.

In cases of localized concretions, surgical drainage or ablation is indicated for the relief of pain. Poul tices, wet drawings a soaking in soap solution may cause softening and drainage. If the blood calcium or phosphoric and is high, food rich in calcium should be avoided. If hyperthyroidann is present, the thyroid may be irradiated. Parathyroid preparations may be used to lower the calcium content of the blood. Fair results may be obtained with foodides.

The case of generalized hypodermoliths reported by the author was that of a woman fifty-eight years of age. The first manifestations of the condition were lumps in the burstocks which first appeared in 1973. In 1974, the left hip became painful. In 1975 the

right wrist and the hands were swollen for three or four weeks. In 1929 deposits in the region of the left greater trochanter opened and drained for a year When the patient was seen by the author she was nervous toxic, and stiff Physical examination revealed small chalky deposits on the rim of the right car a large perforation of the septum movable hypodermoliths at the inner side of the left knee plaques under the skin to the right of the right iliac crest and putty like deposits beneath the skin posterior to the left sacro-lise joint. The skin was dry and atrophic. The woman said that she had not perspired since 1923. The blood pressure was 184/108 The thumbs and fingers were full at the ends on the palmar aspect and presented a few scars of puncture and sinuses. At the margin of one nail and on one finger tip small yellowish deposits were found beneath the epidermia. The palmar part of the right thumb was twice the normal size. It was com pressible but tender The skin was adherent to the masses. Roentgen examination disclosed hypodermoliths near the trochanters and ischial tuber oxities, in the skin above the left buttock, at the tips of the thumbs and all of the fingers on either side of both knees on the upper parts of the legs and at the tip of one toe. The basal metabolic rate was +24 the blood sugar 147 mgm per 100 c cm., and the blood area 41 92 mgm. per 100 c.cm Roentgen treatment was given. In the two years since the treat ment the patient has gained so lb She is now free from nervousness and discomfort, but the calcined deposits remain unchanged. The author attributes the improvement in her condition to reduction of the activity of the thyroid and parathyroid glands by the roentgen irradiation

Persalis case of localised hypodermoliths was that of a man forty-one years of age. The patient stated that at about the age of puberty he began to have small pustules simulating acne, on the scrotum. He kept them empty for some time by evacuating them, but for several years had let them alone. At examination they presented the appear ance of calified hard, white, oval cyatte masses just beneath the akin. They could be enucleated, see and all by altituge the overlying skin Physical examination was otherwise negative. No treatment was feven. Norman C. Retucer M.D.

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Aubertin Lévy and Baciesse: Familial Hæmor ringlic Anglomata: Rendu-Osler Disease (Langiomatose hémorracique familiale maiadle de Rendu-Osler) Prassa méd Par., 1033 zil, 185

The condition discussed is called by the authors 'Rendu-Osler disease because Rendu first differ entiated it from hemophilia and in 1707 Osler definitely classified it and called attention to its familial character. It occurs in both sexes but in slightly, more frequent in females than in males.

Clinically two stages are distinguished 1 The hemorrhagic stage which usually begins between infancy and puberty rarely later. In this

stage epistaxis is the outstanding sign.

s The stage during which angiomate make their appearance. This stage is usually reached between the twentieth and thirtieth vesrs. The angiomate are found on the mucous membranes and the skin, usually at both sites. Remorthage may be sefficiently frequent and severe to cause secondary anemia. The blood findings show little of definite importance.

In the period before the appearance of the angiomata the diagnosis is difficult.

As it is impossible to prevent the appearance of the angiomata, cauterization, electrocosynlation, or the use of carbon dioxide snow may be resorted to if the site of bleeding can be reached otherwise the

treatment must be that of secondary anemia.

Massa W Poors, M D

Nystroem, G: The Frequency of Sercoma in Different Age Groups (Die Frequens des Sarkoma in verschiedenen Alteraktesem) Upsale Läherd Ferk. 1918 EXVIII. 1

In 1912 the author compiled statistics on 505 cases of sarrouna by means of a questionnaire addressed to Swedish physicians. In addition, 918 cases were taken from the official Swedish meetally statistics for the years 1913 to 1916 inclusive. The investigation reported in this article covers the years 1911 to 1929 inclusive and a total of 4,447 cases.

One table shows the absolute number of sercounts and the percentage of surcounts in the total number of cases as compared with the carchomats in the period from 1911 to 1928 inclusive. Assolute table shows the average annual mortality per 100,000 of the average population in corresponding aggroups. The statistics from surcoma of the group under five years of age during the period from 1913 to 1913, inclusive are compared with those summar ised in the tables for the individual years of five-year periods. Curves show the frequency of the fatalities from surcome and fatalities from surcome and fatalities from excinons and fatalities from excinons and fatalities from excinons.

The statistics abow that the widely prevalent opinion that serroma, in contrast to cardinoma, oc curs most often in young persons is incorrect. Of the 4,447 tumors believed to be sarcomata, 2 080 were proved biologically to be sarcomata. The frequency of succome is only a little over 3 5 per cent of the frequency of carcinoma. However the absolute frequency of surcoma is greater in children and in the early years of youth. Up to the sare of fifty years the relative frequency of sarcoma in relationship to all cases of sercome is greater than the relative frequency of carcinoma to all cases of carcinoma. In both sexes the absolute and relative frequency of sercome increases in relation to the population in the corresponding age groups, even up to the six tieth and seventieth years of life except that a peak is reached in the first five years of life

Therefore, aside from its relatively more frequent occurrence in the years of childhood and youth, as come has an age curve that by and large, corresponds to that of carcinoms.

A Stars (Z)

GENERAL BACTERIAL, PROTOZOAN AND PARASITIC INFECTIONS

Nanu I., Jonnesco D., Claudian, I., and Brull, A.: Pure Gonococcic Septicannia (Septicial gonococcipus pure) Pratu acid., Par 1933 xi,

The clinkal manifestations of genococcumia are extremely varied, ranging from a simple transfort bacterismia which precedes all extragenital localitation to a septicopyremia of long duration. As a rule the genococcumias may be divided into the following two large classes:

The theoretically admitted transitory bacterenias, during the course of which the organism is only rarely isolated from the blood, but its presence in the blood is betrayed by humatogenous localization of infection.

3 The septicemias proper in which the bacterium enters and multiplies in the blood, producing clinical symptoms of general infection. This classicales the following two types of conditions of very dissimilar lacidence

a. The septicamias with multiple metastates, especially articular and endocardiac, to which the

great majority of cases belong

b. The pure appricemias, in which the genococcle
infection manifests itself exclusively by symptom
of general infection. This type is exceedingly are,
only a very few cases having been reported in the
literature (Dichaloy Faure Besulleu Taple and
Riter Well sand Colerun). Tranco Rainers

The case of pure gonococcic septicemia reported by the authors was that of a man thirty-two years of age in whom the condition developed eleven your after the initial urethral infection. The clinical parture was that of an intermittent fever of long dura tion (eighty-seven days) with alight solenomegaly, leucocytosis, and polymucleosis of an accentuated and progressive type. The general condition was always satisfactory except immediately after the attacks of chills and sweats, when the patient felt exhausted and depressed. These attacks occurred at the same hour daily. This fact together with the splenomegaly suggested malaria, but the leacocytosis with polynodeosis, the absence of hema tome, and the resistance to quinine excluded that disease. The macular eruption on the skin of the abdomen at first suggested typhold. Later there was a urticarial eruption which was attributed to the quinine After the patient's admission to the bospital the macular eruption again appeared, but mbsided after four days. Six days later it re-appeared in milder form. As the symptoms pointed to general infection, lantal, septicemine and finally proformin by intramuscular injection were tried. However this treatment was without result.

Intermittent fever splenomegalv and transitory cutasons eruptions are common symptoms of goncoacic infection. The septicamia in the care ported should be interpreted as an autogenous intection of prostatic origin which was favored by a number of factors such as alcoholism and fatigue leading to peive congestion and diminishing the general resistance. The infection had remained latent in the prostate for eleven years. The importance of latent prostatitis as a focus of infection is evidenced by the fact that knack and Simon discovered virulent conococci in 160 of 3rd autopases. The intermittent lever with intervals of apprexis in the case reported was caused by successive daily ducharges of bacteria from an active focus of infection which was latent only in the sense that local symptoms were absent. Treatment with colloidal metals, specific stock vaccine, and anti menigococci serum proved futile but rapid and complete recovery followed a fixtuon abscess. Extra S. Moose.

DUCTLESS GLANDS

Aron M van Caulaert C. and Stahl, J: Studies of the Diagnosts of Functional Disturbances of the Anterior Lobe of the Hypophysis—Prehypophysis—and of Certain Endocrine Disturbances in Which They Participate (Recherches sur le diagnostic des troubles functionnels du lobe suffrieur de l'hypophys—rehypophys—ter un cratains déséquilibres endocrialers auxquels ils participant. Preus suid., Per., 1933, 31, 1981.

Until recent years the hypophysis was considered of little importance. It has now been found to contain at least three hormones which stimulate respectively the activity of the thyroid gland, the activity of the sex glands, and growth. Diseases of the thyroid or genital glands may be brought about in those glands secondarily by excess or deficiency of the secretion of the anterior lobe of the hypophysis. As examples, the authors cite cases of Basedows disease and hypothyroidism acromegaly the adoposogenital syndrome obesity and diabetes insipidus. In these conditions treat ment with extract of the hypophysia rather than with extract of the thyroid or sex glands may be indicated.

The authors state that there is probably a very delicate balance between various endocrine glands and that these may not be the only factors involved Every effort should be made to ascertain the condition of endocrine balance by determinations of the basal metabolism (which however may not be dependent on the activity of the thyroid alone) reentgenography of the sella turcica and determinations of the content of thyro-stimulin of the anterior lobe of the hypophysis and of glucose in the hormone insufficient its administration seems to be indicated. When active preparations of the anterior lobe of the hypophysis are available to the practitioner the therapeutic test may be made

AUDREY GOES MORGAN At 1)

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International **Abstract of Surgery**

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INTERNATIONAL ABSTRACT OF SURGERY

SEPTEMBER, 1933

COLLECTIVE REVIEW

THYROID LITERATURE OF 1932

LEO M. ZIMMERMAN M.D., F.A.C.S Amorian in Surney Northwestern University Mudical School, Ch. care

THE thyroid gland continues to be a subject of undiminished interest, as is evidenced by the sustained volume of literature concern ing it and its diseases. Although no new achieve ments of outstanding significance were recorded during the year 1032 it seems, at least that the ground previously gamed is being consolidated. In general, there is a convergence of opinion re garding many phases of the subject, dispelling much of the confusion which has heretofore made it so difficult to understand. There is much greater unanimity in the matter of classification. and a simple nomenclature is finding wider accept ance Although conflicting claims are still made for various therapeutic measures, the test of time has permutted the elimination of much that was unworthy and a proper evaluation of that which has been retained. The lag between the litera tures of the several nations noticeable a few years ago seems to have been largely equalized. From the clinical point of view conditions of hypothy roidism and the obscure and atypical manifesta tions of hyperthyroidism have occupied attention, ordinary thyrotoxicosis apparently being suffi esently familiar to merit little further discussion. Advances have been scored in the physiology of the thyroid gland, especially with regard to the relation of the thyroid to other glands of internal secretion and to normal and pathological iodine metabolism. Surgical therapy has been accepted as the treatment of choice for hyperthyroidism, and the highly creditable results obtained consti tute a brilliant achievement of the medical sciences.

TY JEA EMOTANA

Several years ago William - L reported anatomical stories of the L which were at variance will be at and upon which they possise " ; perthyroidsm. Among out scribed a closed lymphane or an the thyroid and the thyroid Tar , planned the thymic part. 22 of toxic goiter Choule the (38) studied the lympha roid gland by means of careful cadavers and by inject failed to disclose anything preted as a closed hympian

Zechel (207) calls atterne type of thyroid cell, or an Langendorff as college larger than the chief of rregularly distributed (irregularly follicular spaces. They to be a small amount of other a small amount of the state of new Iounces sibly the inception of the next the next the inception of the next th a continuation of his transport of the Websiter (1) a continuation in rabbits, Websier (1) and results from in rabbits, stage of hyperplate it. It disting the stage of "chief" of a worked aimon entirely of "chief" or a strong and annual transmission and a strong a strong and the strong and a sudden transition to a sudden transition to a sudden transition to a sudden transition to the sudden that the sudden transition to the sudden transition transition to the sudden transition transition to the sudden transition t a success that the 14 cell type in different rate which care cells have cells have been a successful to the contact and the contact are contact as a successful to the contact are contact as a succe

These same cells have the minute and
ď on ster eng dogs by \omdex (143) and Raymond (160) \omdex believes they probably represent a sec and type of epithelial cells endowed with secretory capacity

The agnificance of lymphoid tissue in the thy rold sland continues to be a disputed subject. Himmelberger (85) found areas of lymphatic tisaue in the thyroid glands of 2.8 per cent of infants and in about 2 per cent of persons dying of injuries or diseases not involving the thyroid gland. Such foct are present in practically all thyroid glands removed from patients with Grave's discase. Himmelberger concludes from these find ings that the small percentage of persons whose thyroid glands contain lymphatic accumulations coincides with the percentage of those possessing the "Grave a constitution," postulated by War thin, and that exophthalmic roster is the clinical manifestation of a congenital constitutional anomaly He believes that the lymphatic infiltration is diagnostic of hyperthyroldism.

Considerable difference of opinion still exists as to the site of action of the thyrold hormone. McEachern (125) made direct measurements of the oxygen consumption of isolated surviving auricles from hearts of normal and thyrotome gumes pigs. He reports a definitely increased oxy gen consumption in preparations from thyrotexic animala indicating that thyroxin acts directly upon the tessue cells. Myhrman (135) and von Verebely (101) by indirect means, arrived at different conclusions. The former found no accelera-The latter tion of turne oxidation whatever states that of all preparations studied, only in the case of brain tissue could increased orodation due to thyroxin be demonstrated. He concludes that the action of thyroxin is indirect, and that, is erro the brain is the intermediary structure.

The weight of the normal thyroid in the new born has been studled by Leadenius (113) and compared with the body weight. The average weight found was 3 gm. In general, in infants of the same body length, the thyroid was larger in those of lower weight. Leidenius suggests the possibility that activity of the thyrold during the last months of fetal hie may be responsible for the lower body weight. Wyatt, Weymuller and Levine (204) studied the calorinenic action of thy road extracts in normal infants. Following the administration of such extracts they found increased metabolism and chinical symptoms char acteristic of spontaneous hyperthyroidism. The minumal amounts of extract effective in normal subjects greatly exceeds that in individuals with hypothyroldism. Topper and Muller (188) studied the basal metabolism of normal children of an older group. They found an increased metabolic rate in the prepubescent period, which varied in degree and duration in different children. During this period, some of the children exhibited symptoms of thyrold overactivity such as enlargement of the thyroid gland, tremor nervousness, vasomotor instability and tachycardia, all of which disappeared as the basal rate feturned to normal when puberty was well established. Topper and Mulier believe the increased meta bolic rate during puberty to be physiological, and emphasize the necessity of considering this phenomenon in evaluating clinical pictures during this period. It should not be confused with true exophthalmic golter which is rare before adolescence

Jenkum (95) reports careful studies of the units of error in basal metabolism determination and the range of bormal metabolic rates. He sog gests that all cases deviating from 10 to 17 per cent from the zero point be regarded as "doubt ful. He has made a large number of determinations of the "basal pulse complex," and has derived a formula for computing this complex from the basal pulse rate and the basal pulse pressure. These values are comparable with those of basal metabolism determinations and may be

used as confirmatory findings.

Thyroid activity during pregnancy has been the subject of several studies. Soule (179) confirmed the finding of Anselmino and Hoffman that a substance is present in the blood serum of pregnant women which, on injection lowers the liver glycogen of the mouse. This substance represents an increased quantity of thyroid hormone and is evidence of an actual phymological hyper function of the thyroid gland during pregnancy Nakamura (138) found an increase in the sodine output during pregnancy indicating increased thyroid activity. In the early puerperium, the output was greatly delayed, which implied bypofunction, but it returned to normal from nine to eleven days post partum. The injection of placental extracts increased the lodine excretion in normal, but not in thyroidectomized, rabbits \akamura concludes from this fact that the placenta is the source of stimulation to increased thyrold activity during pregnancy Niederwasse (141) found the basal metabolism of pregnant women to be elevated from 14 to 18 per cent near term. The greatest increase occurred in guitrous subjects. No disturbances were noted in the course of pregnancy and no changes were found in the offspring

Two phases of the physiology of the thyroid gland which received the greatest attention dur ing the past year were the relation of the thyroid to the anterior lobe of the pituitary, and the question of thyroid and iodine metabolism. The latter subject is inseparable from that of goiter and will be discussed with that condition. Since hyper placia of the thyroid gland following injections of extracts of the anterior lobe of the pituitary gland was reported by Loeb and Basset in 1030 this observation has received widespread confirmation and there has been rapid extension of the investigations to include the physiology and chemistry of the thyroid gland blood iodine determinations. and studies of the metabolism following the in jection of active pituitary extracts. Closs Loeb and McKay (30) found an increase in the alcohol soluble iodine level in the blood and a fall in the iodine content of the thyroid gland following in sections of extracts of the anterior lobe of the pituitary gland. These changes coincide with those noted in Grave's disease in man. Houssay Biasotti, Magdalena, and Mazzocco (88 89 90) report that, in the laboratory animal, hypophy sectomy prevents compensatory hypertrophy following subtotal thyroidectomy Increased thy rold activity following injections of extracts of the anterior lobe of the pituitary gland, as indicated by lowered resistance to oxygen deprivation, could be demonstrated in the normal but not in the thyroidectomized animal. Schneider (172 173) observed symptoms of hyperthyroidism in cluding elevation of the basal metabolism and an increase in the blood glycogen following the use of pituitary extract. Histological changes were seen after four days and an elevation of the blood iodine was found some time later Schneider's blood iodine findings differed from those in true spontaneous hyperthyroidism in that, in Base dow's disease, only the alcohol-insoluble fraction is increased whereas following injections of pituitary extract both soluble and insoluble com ponents were elevated. Grab (74, 75) made sumi lar findings. He reports also a decrease in the iodine content of the thyroid an increase in the blood iodine especially of the alcohol-insoluble fraction and after three days, an increase in the iodine excretion in the urine. Junkmann and Schoeller (100) isolated the thyrotropic hormone of the anterior lobe of the pituitary gland in a considerable degree of purity. They found it heat labile and inactive on oral administration. It is not identical with the gonadotropic hormone and is not found in the extracts derived from urine or in commercial preparations. Schitten helm and Eisler (170 171) found increased resist ance to acetonitril and greater sensitiveness to lowered oxygen tension. They gave the extract by mouth to a series of human subjects and recorded palpitation fever, nervousness tremor, tachycardia and elevation of the basal metabolic rate. No improvement in the clinical picture or change in the metabolism was observed in myxordema, although the blood iodine rose. In obesity it resulted in loss of weight. Eitel and Loeser (59 60) describe a method for the isolation of the thyrotropic hormone. They observed morphological changes in the thyroid within two hours after its injection. The liver glycogen was lowered following its use. They too used it for human subjects, and found it capable of producing an active increase in thyroid function.

Loeser (110) also investigated the effect of thyroidectomy on the relation between the an terior lobe of the pituitary gland and the ovary He found the typical effect of the anterior lobe of the pituitary gland upon the ovary in animals totally thyroidectomized Bokelmann and Scher inger (20) compared the thyroid glands of normal and castrated female rats. Removal of the ovaries resulted in atrophy and reduction of the iodine content of the thyroid. The effect of thyroidect omy upon the amylolytic properties of the saliva and upon the blood amylase was investigated by Gayda (72) He found no effect on the composi tion of the saliva, but the blood amylase fell with increasing myxoedema, as part of the general decrease in body metabolism. Davis Hinton, and Killian (40) studied the relationship between the pancreas and the thyroid gland Ligation of the pancreatic ducts in dogs had been found to result in the production of colloid goiter. They found no diminution in the blood tyrosine and the administration of tyrosine did not prevent the development of goiter Therefore the goiter is not due to a decreased tyrosine supply as the result of interference with proteolytic digestion. The administration of iodine also failed to prevent the development of gotter Davis, Hinton, and Killian be lieve their results suggest a relationship between the pancreas and the thyroid.

COITER

The newer literature reveals much greater agreement as to the classification and terminology of gotter Particularly in those works appearing in the English language the nomenciature recommended by the American Association for the Study of Gotter is widely accepted. According to this classification, 4 types of gotter are recognized non toxic diffuse goiter toxic diffuse goiter non toxic nodular goiters in both groups are being looked upon more and more as the end stages of

the changes causing the diffuse enlargements. The conception of the nodules as being neoplasms is being abandoned, and the term adenoma is rarely employed in speaking of them. Rice (169) compared the incidence of nodules in thyroods removed routinely at autopay from patients without thyroid disease with that in thy rodds surposally excited. He found them as frequent in the postmortem, physiologically normal glands as in the surgical specimens. The incidence increased with advancing age in both series and, in persons between severity and seventy forces of the property of the glands were found years of age; no por cent of the glands were found.

to contain nodules. Rice compared also golters from the state of Minnesota with those from the canton of Bern, Switzerland (163) He found no fundamental dif ferences in the two series, but the percentage of the various types differed in the two localities. Toxic goiters were strikingly less frequent in the Swise material. The glands from Bern were larger than those from Minnesota. Hellweg (83) studied the thyroid material from Kansas, and found that North American golter resembles that of the plants regions of Europe-Northern Ger many Holland, and the Russian lowlandsrather than the endemic golter of the mountainous regions. In North America, diffuse gotter is more prevalent than nodular gotter non-toxic parenchymatous goiters are uncommon, and toxic goiter is much more prevalent. Little has been added toward determining the relation between simple and toxic gotter McClure (123) how ever found a tremendous reduction in the incidence of non-toxic diffuse golter in Michigan since the introduction of sodized salt. During the same period there has been a striking diminution in the number of gotter operations in that state. Since surgical golder is usually toxic golder it appears that iodine prophylaxis is at least a factor in the mevention of toxic and nodular golters.

Iodius medabelius. In general, studies of blood forline have confirmed Lunde a sasertion that the blood notine can be separated into two fractions, one alcohol-tooluble and the other alcohol-insohuble. Dodds, Lawson, and Robertson (54) have also confirmed the finding that the insohuble fraction is elevated in patients with toole golter and is reduced by fodine medication. The fall in blood iodine is not always associated with an amelicantion of the clinical symptoms and a lowering of the metabolic rate. Schittenbelm (169) states that the mode of extretion of lodine depends on the functional state of the thyroid. A rormal and hyperthyroid subjects extrete most of orally administered thyroim loadine in the urine but

persons with myzodema exercite it in the stool, longmus toditie and the isolute in ordinary food is always exercised in the main, by way of the unce. In health, the blood isolute level is constant. Its fall definitely indicates hypofunction of the thyroid gland. It is increased in hyper thyroidism, but the increase does not parallel the severity of the disease. Y ray treatment lowers the folione level. Schittenhelm believes that the brain, paracularly the medulla, is a major factor in fodure metabolism, and that the anterior lobe of the prutitary gland is another. The thyroid is included in the system, but it not the center of it. In a series of contributions on the evision of

In a series of contributions on the relation of iodine to goster Brestner (26-30) retains his morphologicofunctional conception of the dif ferent types of golter. He found the peak of the blood-iodine curve to occur in February coinciding with the most frequent ofnet of golder and indicating a seasonal influence. Continuing his studies of the iodine content of blood from the thyroid artery and the thyroid vein, he found the venous blood to contain more lodine than the arternal blood. In all types of goiter the iodine content of the systemic venous blood is 60 per cent lower than that of the thyroid venous blood and so per cent lower than that of the thyroid artery blood. In thyrotoxicosis, the thyroid gland is poor in iodine and colloid, and the blood iodine, pur ticularly the organic fraction, is elevated. Under the influence of increased sympathetic tonus, the hyperactive thyroid gland excessively produces and immediately excretes its active principle. Externally administered, iodine inhibits the exaggerated sympathetic tone alowing both production and transportation of the thyroid secretion. Therefore, with iodine medication, the iodine and colloid of the thyroid gland are greatly increased as the active secretion is stored the inorganic blood iodine rises sharply and the organic fraction drops toward normal.

Jord (97) compared the biological value, iodine content, histological structure and cluneal picture of different types of gotter for cases of adenocea, a high fodine content usually indicated a high coloned content and greater biological activity and secured to parallel clinical activity. In diffuse golter the iodine treatment increased the iodine content and biological activity but reduced clinical activity. These differences suggest a fundamental dissimilarity in the two forms of hyperthyrodom, probably dependent upon dynimiction in thyroid secretion, the nature of which as yet unknown.

Guiman, Benedict, Baxter and Palmer (78) found that the administration of iodine to pa tients with exophthalmic gotter resulted in an in crease in both the morganic fodine and the thy roglobulin fodine content of the thyroid gland. The chemical nature of the thyroglobulin fraction is altered by an increase in the thyroxin iodine and a decrease in the non thyroxin compounds, chiefly of di-rodotyroune. These changes constitute a return from the more or less depleted state of the untreated exophthalmic gotter gland toward

that of the resting gland. Blood picture and goiter Studies of the blood picture in the presence of various types of goiter revealed no constant or striking changes. McCullagh and Dunlap (124) report a slight reduction of hemoglobin and a relative lymphocytosis in both hyperthyroidism and hypothy roldism. The red cell count in hyperthyroidism was normal and the lymphocyte count fell after thyroidectomy Hoskins and Jellinek (87) observed the effect of thyroid medication on the blood picture The average erythrocyte count was significantly increased and the leucocytes slightly diminished following thyroid medication. The diminution of leucocytes affected chiefly the polymorphonuclear cells, whereas the lymphocytes were relatively increased. A diphasic action was noted the effect being reversed if optimal dosage was exceeded. Hoskins and Jellinek con clude that thyroid medication is of general utility in the treatment of secondary angenia, and that age, nutritional status, basal metabolic rate, dosage, and duration of treatment are significant factors in determining the degree of effect obtained. Gamow's (71) studies of the blood picture in a group of patients with non-toxic goiter revealed a low red cell count, usually of four million, with a relatively high color index, the hemoglobin being normal or above. These changes are at tributed to diminished erythropolesis. The pa tients, most of whom were children, were dyspnotic and in poor general condition. A definite lymphocytous was present in most instances. In myxordema, anæmia is frequent, according to Lerman and Means (114) and to Oliver Pascual, Montejo Galan and Oliver (145 146) but responds to combined treatment with thyroid, liver and iron.

Oliver Pascual, Montejo Galan, and Oliver in vestigated also the relation of the thyroid gland to hamoglobin metabolism. They report a series of cases with low basal rates accompanied by anarmia and a diminished urobilin exertion. Thyroid medication devasted the hamoglobin level, the urobilin output, and the basal rate. In hyperthyroidsm there was excessive activity of the hamatopoietic system with hyperbilinaemia.

and increased urobilin excretion. These findings, as well as the basal rate, diminished following the ingestion of splenic extract. The conclusion was drawn that in patients with hyperthyroidism there is a constitutional anomaly of the reticulo-endothelial and harmatopoletic systems. Tacher nozatonskaia (190) found an acceleration of the crythrocyte sedimentation rate in the presence of hyperthyroidism and a slowing of this rate in hypothyroidism. The degree of aberration from the normal roughly paralleled the severity of the clinical picture

Arthritis occurs in both hypothyroid and hyperthyroid states, according to Duncan (55). The arthritis of hypothyroidism is of the hypertrophic type and responds to thyroid medication. In hyperthyroidism, atrophic polyarthritis occurs. Adequate surgical therapy gives astonishing relief from pain and deformity. If delayed too long irreversible changes result.

Gotter and pregnancy Pregnancy throws an added burden upon the thyroid apparatus. Davis (48) urges the administration of sodine during pregnancy and lactation for the relief of thyroid dysfunction in the mothers and the prevention of congenital goiter and cretinism in the children. Framer and Ulrich (65) are in accord with this view, and state, in addition, that simple goiter may develop during pregnancy and can be prevented by the administration of rodine. Surgery for simple goiter is indicated only if pressure symptoms are produced. Thyrotoxicosis has its beginning during pregnancy in 3 2 per tent of the cases. Frazier and Ulrich advise against interruption of pregnancy because of hyperthyroidism. Mild cases may be carried to term on iodine severe ones should be operated upon during pregnancy Day (50) points out the infrequency of pregnancy and the high incidence of abortion or premature labor in hyperthyroidism. recommendations as to management coincide with those mentioned. Kuestner (104) advises thyroxin in the treatment of eclampsia, particularly in the early stages or the pre-eclamptic period. This therapy is based on the assumption that hyperfunction of the posterior lobe of the pituitary gland is responsible for the eclampsia and that the thyroid is antagonistic to the posterior lobe of the pituitary gland.

SIMPLE COITER

The etiology of endemic goiter continues to be one of the perplexing problems of current thyroid literature. According to most observers, iodine deficiency is a factor but not the only factor and according to some, it is not the primary factor However thyroid changes can usually be nrevented by the administration of indine. In other words, various factors, nutritional, hymenic, and specific provoke an anymented thyroid function in the absence of an adequate jodine simply This increased demand manifests itself by mor phological hypertrophy and hyperplasia of the pland. Summarizme the findings of a continua tion of his propert investigations of simple goiter McCarrison (122) points out the normal fluctua tion in size of the thyroid aland from day to day from season to season, and at certain stages of hodily development and of physiological periods requiring increased thyroid activity. The growth curve of the cland as compared with the body weight at the various stages of life he charac terizes as the life line of the thyroid pland largements of the thyroid beyond two and one half times their standard deviation, he considers abnormal or sorter. The incidence of soiter follows the normal curve of thyroid enlargement and is affected by prographical location, season, and conditions of life and is profoundly affected by dietary influences. The concentration, in certain localities, of influences tending to elevate the curve imparts to gotter its endemic character Some of these influences appear to be operative mainly in childhood, others during the period of attainment of full statural development, and others throughout the entire soan of life. Under the latter circumstances, the stigmats of gottercongenital gotter cretinum deafmutism and varying grades of physical and psychic degeneration—appear in the newborn of the mecies. In order of decreasing importance the goltrogenic influences are dietary and hymenic faults and iodine deficiency In McCarrison a experimenta, dietary faults include excesses of fats and lime deficiencies of vitamina, indine, or phosphates or positive golter producing substances such as are present in cabbage and some similar vegetables. Insanitary conditions augment the goltrogenic qualities of improper diets, but do not produce goiter in animals on adequately balanced diets. The findings with relation to some were indefinite and inconclusive. Iodine deficiency per se is not the cause of goiter but iodine definitely counteracts golter-producing factors. Thymol, manganese, phosphates, and vitamins are as powerfully antigoitrogenic as iodine but are less uniform in their action.

Webster (198) summarizes the againsant studies being made by his group on experimental goiter. They have found that cabbage feeding produces hyperplastic gotter in rabbits. Steaming increases this goitrogenic activity while iodine administration counteracts it completely. The metabolic rate of the goltrous animals is lower than normal, but becomes greatly increased if iodine its administered. As yet, attempts to isolate the goltrogenic principle have not been successful. Jackson and P an (04) found no increase in the weight of the thyrold in animals reared on a low iodine duet as compared with controls recent ing a normal sodne supply.

Abbott (1) made a survey of simple softer in Winnipeg school children. He found thyroid enluvement to be endemic, although its incidence has apparently been reduced more than to per cent in the past four years by prophylactic therany. The widespread use of lodged salt is probably the most important factor in this de crease. In boys, the incidence of the condition reached its maximum at the age of thirteen years and then subsided, but in girls it continued to increase after that age. Among the causes are septic teeth and tonsils. Race is also a factor Thyroid enlargement is most prevalent in the children of central European and Jewish immigrants. Its frequency in the former is attributed by Abbott to diets in which cabbage is a dominant constituent, and its frequency in the latter to poorly balanced dieta neh in fat. Smith (173) noints out that the influence of lodine in the prevention of sample goiter depends less upon the amount of lodine available than mon the amount utilized by the organism. Solar radiation is an important factor in iodine utilization. In the United States areas of endemic soiter coincide with regions of deficient sunlight. A similar relation obtains in India and New Zealand. Studies have revealed also that the sodine content of vegetables varies with solar radiation. Jósa (08) found a parallel between goster incidence and lack of sodine in the drinking water in Hungarian golter regions. He considers sodine insufficiency the chief cause of goiter although other factors, such as the unfavorable post war hving conditions, may initiate the disease. Stott (182) sur veyed the United Province with regard to endemic golter. He found the typical endemic golter to be a diffuse colloid gotter in which nodular cystic deseneration with fibrosis occurs. Its causes be believes to be an excessive intake of lime in the drinking water insufficient sodine, and intestmal infection from contaminated drinking water. Of these he regards the excess of calcum as the most important. Ucko (101) reviews the world litera ture of the last eight years concerning the iodine deficiency theory of golter and concludes that there is no single cause for golter. He considers goiter a simple hypertrophy in response to increased physiological stimulation. The relation of iodine supply to this hypertrophy is not under stood. Familial gotter occurring in non-endemic regions is reported by Bing (18) and by Meulen

gracht (120)

Leffmann (111) examined 349 thyroids of pa tients who died with acute and chronic infectious diseases. He observed loss of colloid, epithelial desquamation increased connective tissue and hyperemia The changes are totally non-specific in character Walcher (196) reported 5 cases of congenital goiter 2 of which caused death by suf focation Pusch (154) found a calcareous arterial lesion in 56 of 100 gotters examined. It was independent of the patient sage or blood pressure, the duration or structure of the gotter or the clinical picture. It was found occasionally even in the normal thyroid, but not in thyroids of fetuses or newborn infants. Morphologically it is a degenerative process consisting of hyalin degenera tion and calcification of the elastic intima. In more advanced cases, the media is also calcified Halle (80) reported a series of cases of simple got ters which disappeared following the removal of diseased tonsils. He considers the goiter secondary to the tonsillar infection. Pfeiffer (152) points out that minute amounts of jodine may produce severe disturbances in sensitive persons, although larger quantities occurring naturally in food and drinking water are well tolerated. He assumes, therefore, that the biologically assumi lated iodine combinations are better tolerated than lodized salt, and recommends the feeding of iodine-rich plants to milk animals in order to provide biologically assimilated iodine. Wolfsohn (203) also fearing the danger of todine administration to persons intolerant to the drug sug gested a skin test for iodine sensitization consist ing of the intradermal injection of a minute amount of iodine solution. A questionnaire (103) concerning goiter brought 58 replies from various countries and revealed a lack of general belief in any one cause of goiter Indized salt was not considered the final solution to the goiter question, and uncontrolled iodine administration was con sidered injurious and dangerous,

TOTAL GOITER

Interest in the question of toxic goiter continues to dominate the entire subject of the thyroid gland, as is attested by the profuse literature. The differentiation between exophthalmic goiter and toxic adenoms and between primary and secondary forms of hyperthyroidsim is being increasingly limited and as a rule all forms of toxic goiter are discussed together

Etiology and pathology According to most recent writers, the cause of hyperthyroidism is not to be sought primarily in the thyroid gland itself This gland is thought, rather, to be stumu lated to excessive activity by impulses arising elsewhere The initial source of the hyper function is attributed to various causes. The experi ments previously mentioned, in which injections of extracts of the anterior lobe of the pituitary gland resulted in enlargement and hyperplasia of the thyroid gland, with loss of weight and elevation of the basal metabolism and lowering of the rodine of the thyroid with simultaneous elevation of the blood lodine, have suggested to the investigators that the origin of the disease is in the nervous system and that the thyroid gland is involved secondarily. Barker (13) points out that the clinical symptoms in the thyreopathies are referable to alterations in tone of the vegeta tive nervous system, including both the sympa thetic and the parasympathetic divisions, with predominance of the excitor elements over the inhibitor, elements. Autonomic imbalance as the predisposing factor plus immediate causes such as injections or intoxications are necessary for the development of thyroid disease. The effect of lodine is attributed to its sedative action upon a hyperexcitable nervous system Friedgood (67 68) points out the similarity in the clinical pictures of exophthalmic goiter and lymphatic leukæmia even to their therapeutic response to iodine From his data he concludes that exonhthalmic goiter is not a disease of the thyroid gland, but that, like chronic lymphatic leukæmia, it is primarily a disturbance of the sympathetic nervous system. Both the sympathetic nervous system and the lymphatic system play a significant role in the pathogenesis of these conditions and he believes the effect of iodine to be intimately related to the pathological physiology of

the sympathetic nervous system In a study of the relation of climate to the etiology of exophthalmic goiter Mills (130) found that the distribution of deaths from this disease as well as from other metabolic disturbances, coincides with geographical areas exposed to greatest temperature variation and storm frequency He believes the climatic drive forces a certain number of the population too near the limit of their metabolic possibilities so that less of an exciting force is necessary to bring on these metabolic disorders Capelle (35) reviews the question of involvement of the thymus in the sympathetic complex of exophthalmic gotter He believes such a relationship exists, but that removal of the thyroid with perhaps preliminary irradiation of the thymus should be the primary therapeutic procedure. In cases which fall to respond to thyroidectomy, removal of the thymus may be considered. Bowers (x) also concluded that the great majority of patients with hyper thyroidism present evidences of constitutional abnormalities other than those related directly to the thyroid gland. The almost constant presence of lymphoid hyperplasts in the thyroid glands of patients with tone gotter and the frequent ascitation of hyperplasts of the thymus and other lymphoid structures appear to indicate that at least one manifestation of predaposition to hyperthyroidism is the presence of the thymicolymphatic constitution to which Warthin has

applied the name. Grave a constitution. Clinical manifestations The literature dealing with the clinical features of hyperthyroidism is concerned primarily with the atypical, the masked, and the horderline and jodine resistant types. Thompson (183) believes that the nervous manufestations of exonhthalmic soiter are merely exaggerations of reactions which were previously present in a somewhat less intense form in patients with emotional instability. Thyroidec tomy which reduces the basal rate to normal, only restores the natients to their former state. The degree of nervous disturbance during the disease depends largely upon the intensity of the emotional instability that was present before it developed Comparing except thalmic gotter as it occurs in Boston with that occurring in Chicago Thompson and Means (185) were unable to observe any algorificant differences in the a regions. Elliott (61) discussing the medical aspects of thyrotoxicosis, emphasized the necesalty for accurate diagnosis in cases presenting symptoms identical with those of thyroid discase, but due to conditions of excessive nervous stress or to the presence of chronic infections also in the cases of thyrocardiacs. in whom manifestations of hyperthyrolchem are over shadowed by the cardiovascular symptoms. As difficulties in diagnosis may be further increased if the patients are under partial iodine control, Elliott believes that iodine should be withheld until a positive diagnosis has been made and a plan of treatment adopted. Crises of hyper thyroldism may simulate severe general infections, encephalitia, heart failure, or acute abdominal conditions. The possibility of such crises must be kept in mind and their hyperthy rold background recognized. Troell (189) reports a series of cases of Basedow s disease with a basal metabolism of +20 or lower Potter and Morris (153) found iodine resistance to occur particularly

in the severe forms of hyperthymodism and to complicate the therapeutic problem greatly Iodine resistance was found in vr per cent of nationts with diffuse exonlithalmic softer and in 2.6 per cent of nationts with toxic adenomate Of these, so per cent had had previous iodine, which probably accounted for their resistance. The remaining 60 per cent had had no iodine. except that which may have been present in the table salt. Twenty two per cent of the refractory nationts with exorphthalmic policy and to per cent of those with hyperfunctioning adenoma exhibited severe postoperative reactions. Such national require the most careful observation and indement as to the type and extent of meration. In these conditions, multiple-stage operations are of value. Donlar and Davis (c6) point out that atypical manifestations of exophthalmic goiter are prome to appear early in the course of the disease, before either exophthalmon or thyroid enlargement. The symptoms of an associated disease may be aggravated by the development of hyperthyroidism and conceal the presence of thyrold disturbance. Elevation of the metabolic rate and response to judine are significant in confirming the diagnosis of exophthalmic souter Menard (126) reports a cases of lenkemis which simulated hyperthyroldism. Rose (167) and Hamilton and Beck (81) report cases of hyper tension presenting the clinical nicture of thy rotoxicosis, for which they were erropeously treated. Even the basal metabolism in these cases was elevated. It emphasizes the value of a therapeutic test with indine. Wohl (202) deacribes a series of cases of thyrotomoras which suggested other conditions such as heart disease, spastic colitis, chronic appendicitis, and vasospastic disturbances. In the absence of the cardinal signs of exonhthalmic solter the secondary symptoms such as finahing tachy cardia, tremor nervousness, and weight loss are important features leading to a proper diagnosis. Persistent elevation of the basel metabolism and response to Lugol a solution confirm the diagnosis. Similar atypical cases were described by Rankin and Haines (158) and Josefson (00) reported a cases with disease of the central nervous system smulating hyperthyroidism.

Osterberg and MIIIs (148) examined bone which had been removed from patients with histories of hyperthyroidism demonstrated chemically and rosatgeologically. They falled to find osteoporosis, although it had been previously shown that bone rarriaction may occur because of increased calcium excretion in hyperthyroidism. Ask Upmark (11) describes tetany occurring pre-

operatively in the presence of thyrotoxicosis. He believes that the thyroid is concerned with mineral metabolism as this is indicated by the development of goiter following excessive calcium intake Increased calcium excretion in hyper thyroidism may be a factor in the development of tetany during the course of thyrotoxicosis.

Morrison and Levy (133) and Mora (131) each describe a case of periodical paralysis associated with exophthalmic goiter. It is inferred that in some of these cases the endocrane elements may play an important etiological part and may re spond to thyroidectomy Myasthenia gravis occurring together with exophthalmic golter has been reported from time to time. One such case is described by Cohen and King (43) They point out that myasthenia of greater or less degree is observed in most cases of exophthalmic golter, and that some of the eye signs are merely evidences of weakness of the ocular muscles. They think a definite relation exists between myasthenia gravis and exophthalmic goiter Hagedoorn (70) reports the case of a patient with thyrotoxicosis and paralysis of the superior rectus muscle of the right eye Syphilis and thyroid disease are discussed by Netherton (140) and Baumgartner and Weill (14) report ex ophthalmic gotter in which excised thyroid was found to contain tuberculosis.

Ipsen (92) reports a pempheral vascular dilata tion in hyperthyroidism evidenced by measurements of the cutaneous temperature. Elevation of the skin temperature of the foot parallels the rise in the basal metabolism. Immediately after operation there is a further transitory increase in the temperature from the thyrotoxic effect exerted upon the arteries by way of the sympa thetics. In myxcedema, thyroid administration elevates the skin temperature and in a case of Raynaud's disease relieved the arterial spasms. krech (102) found the amino acid excretion in the urine to parallel the basal metabolism in hyperthyroidism. Following iodine medication, the amino acid nitrogen fell and after thyroidectomy a further striking drop occurred. Gusel (73) studied the rôle of the liver in the disturbance of metabolism in patients with thyrotoxicosis. The blood-sugar curves following the administra tion of insulin and after the ingestion of levulose resembled those obtained in cases of severe liver disease. At autopsy, fatty peripheral degenera tion and congestion of the liver were found. Such changes may persent for as long as a year after recovery from hyperthyroidism, but the liver glycogen returns to normal. Gassel there fore recommends preliminary treatment with a liver-spaning diet and small doses of insulin and glycogen. Lichtman (115) studied liver function in hyperthyroidism by determining canchophen oxidation. He found indications of moderate impairment of liver function but no instance of severe hepatic disturbance. The functional im pairment did not parallel the severity or duration of the thyroid disease, but in some cases liver function tended to improve as the basal rate returned to normal. No further impairment of hepatic function was indicated by the galactosetolerance test or by determinations of the icterus index, bilirubinæmia, and bile-salt excretion. According to Lerman and Brogan (113) renal function is slightly lower in myxædema than in exophthalmic goiter, but in both diseases it falls within the normal limits. The differences are adequately accounted for on the basis of circu latory conditions and offer no support to the concept that the permeability of renal tissue is significantly altered in hyperthyroidism or myx ædema.

Studies of the heart and circulation in toxic goiter reveal increased cardiac activity the result of acceleration of the pulse rate an increase in the minute volume, and elevation of the pulse pressure. Cardiac hypertrophy may occur in long standing cases, and cardiac irregularities and symptoms of congestive heart failure may supervene if the added burden is excessive for a heart previously damaged by valvular or myocardial disease. No specific changes are found in the myocardium of patients dying of hyper thyroidism. Andrus and McEachern (10) show that the tachycardia and other cardiac symptoms are related to the direct effect of thyroxin on the myocardium. This, plus the burden of the increased circulatory demands of the entire or ganism, explains the cardiac manifestations of hyperthyroldism. In individuals whose circulatory reserve has been diminished by age or by organic cardiac disease myocardial failure may result. Yater (205) adds a general vascular relaxa tion brought about by the local action of metabolites on the arterioles and capillaries, an increase in the circulatory blood volume due mainly to a contraction of the spleen and an increased rate and depth of respiration as factors in the fortul tous adjustment of the circulation in hyper thyroidism. Rahm and Parade (156) were unable to establish a characteristic blood pressure type in Basedow's disease, but an increased pulse pressure was almost always demonstrable. The amplitude did not parallel the basal rate. Pem berton and Willius (150) also record an increased pulse pressure and increased circulatory rate in

totic goiter. Cardiac hypertroph) was found at autops) in 15 per cent of the cases, usually those in which the gostrous condition had been prolonged. No distinctive histopathological changes were noted. Menne, Keane Henry and Jones (127) found degenerative changes and fibross in the hearts of rabbits with experimental hyper thyrodism. They suggest that the changes might be produced by overexertion rather than by the toric effect of thyroxin on the myocardium. Burnett and Durbin (34) suggest that the large numbers of patients who continue to show cardiac symptoms after thyrodicctomy may have suffered some degree of permanent damage as a result of

the toxins associated with the police Hatlehol (\$2) states that there are pronounced abnormalities of the earbohydrate metabolism in thyrotomosis which disappear after thyroidec tomy and are not true diabetes. He does not believe the incidence of true dishetes to be increased in the presence of hyperthyroldism. Andrus (o) arrived at a similar conclusion. The disturbance in carbohydrate metabolism in hyper thyroidism consists of an abnormally rapid break down of glycogen. In diabetes, on the other hand, the ability to store carbohydrate is reduced. If hyperthyroldism is superimposed upon disheres, abnormal demands are made upon an already inefficient carbohydrate metabolism by the augmentation of the basal metabolic rate and the increase of glycogenolysm. Andersen (6) by a special technique demonstrated spontaneous glycomma in all of as patients with exophthalmic roster. In these cases there was an augmented and protracted hyperglycamic curve following glucose ingestion. John (96) has analyzed the carbohydrate metabolism in patients with hyper thyrodom treated at the Cleveland Clinic. He states that the incidence of true diabetes in per sons with this condition is twice that in normal individuals. Non-physiological hyperglycemia was found on one or more occasions in 620 (6 88 per cent) of the 0,000 cases. In about one third of these the hyperglycamua persisted and resembled that of diabetes. Following operation for hyperthyroidism the diabetes improved in 55 per cent, remained stationary in 15 per cent, and became worse in 30 per cent. Of the entire group of patients, 35 per cent were still taking insulin. John believes a "diabetic anlage to be present in these patients, and that the hyperthyroidism, by elevating the metabolism and increasing the demands upon the insulmogenic system, preduposes to the development of diabetes. In some of these patients, in whom the disturbance of carbohydrate metabolism is alight, the diabetes

may be "functional," or the early stage of a true dashets. Only observation over a long period of time will permit the differentiation between the two. The glycopen store in the hver is low in hyperthyroidism. Its reduction increases the tendency toward acidous and suggests the advisability of pre-operative and postoperative intravenous administration of glacose with or without leaving.

Exophthalmic polter in children has been the subject of reports by Dinamore (ca) of the Cleveland Clinic and Rankin and Priestles (110) of Rochester The former series comprises 17 cases, the latter or. In the cases of children the chinical manifestations of hyperthyrodism are ementially the same as those in adults and the treatment follows the same general munciples. Acute exacerbations of the disease are more prone to develop in children, and considerable care in the pre-operative preparation and spreical treat ment is necessary. Survey is the treatment of choice, and the end-results are good. Because of the greater need for thyroid secretion in the growing child somewhat more thymid tissue must be left behind. Rhood-sodine studies in a case of thyrotoxicosis in a boy of eight years reported by Curtis (42) indicated changes of the same character as those found in adults. series of cases of thyrotoclouds in Necroes is presented by Herrmann (84) who contradicts the frequently made statement that the disease is uncommon in this race. The clinical arountoms do not differ from those in white nationts, and paychic shock, financial worrles, and domestic difficulties seem to play as important a part in precipitating the syndrome

Treatment Evaluation of the relative merits and disadvantages of the various therapeutic attacks for toxic gotter over a period of time has permitted the reconciliation of many divergent opinions. Contradictory claims of the proponents of various types of treatment have given way to an almost universal acceptance of the places in the therapeutic scheme which are occupied by surgery irradiation and medical treatment Subtotal thyroidectomy in 1 or more stages, has emerged as the accepted treatment of choice for most cases of hyperthyroidism. Medical treat ment has been assigned a dominant rôle in the preparation of patients for surger, and in the after-care of the patient handlespped by visceral damage. Although \ ray bradiation is advocated by a few as the treatment of choice for hyper thyroidism in general, it is usually considered indicated only in borderline cases, thyrotoxicoes which persist after operation, and occasionally the

preparation of poor surgical risks for operation. The results of surgical treatment and follow up studies in a number of large series of cases reveal that the end-result is usually very satisfactors, the mortality is low and serious postoperative

sequelæ are infrequent.

Medical treatment with fodine in organic com bination in the form of di-lodotyrosine is recommended by Del Castillo and Dassen (51) and by Parhon and Ballif (149) They consider the ac tion superior to that of rodine in other forms Bram (24) points out the great tolerance in hyperthyroidism to quinine and recommends this drug m large doses as an adjuvant in the medical treatment of exophthalmic goiter together with regulation of the diet psychotherapy and proper environment. Quinine may be used in combination with iodine When recovery is attained, the singular tolerance to large doses of quinine disappears and the patient becomes normally susceptible to unchonism. Sodium and ammonium fluorides were used to good advantage by Macchioro (120) and Orlowski (147) Loeper Soulié, and Bioy (118) advocate the use of sodium borate in toxic goiter. They report a return of protein equilibrium and lowering of the basal metabolism with amelioration of the clinical symptoms. The intramuscular injection of animal blood is advocated by Bier (17) Orlowski (147) on the other hand, was unable to note any benefits from animal blood treatment other than those occasioned by the rest in bed. Transfusion with human blood from normal and hypothyroid subjects is favorably reported upon by Biancalana (16) He believes the method of value in the pre-operative preparation of patients. Ergotamine was used with good results by Ewen (64) in a case of hyperthyroidism associated with psychosis. Anderson (7) discusses the value of quinidine in the treatment of cardiac irregularities due to hyperthyroidism. The drug is used in cases in which fibrillation persists more than three days after operation. Failure of response or recurrence of the irregularity indicates per sistent hyperthyroidism. After adequate thy roidectomy the addition of quinidine therapy will restore normal rhythm in 96 per cent of cases of persisting fibrillation. A review of the end-results of medical treatment for toxic goiter was obtained by means of questionnaires addressed to their patients by Eason and Wallace (57) Their impression was that the late results were favorable and the mortality was low. They were unable to see any striking advantages of one form of non-operative treatment over any other and assume that the course of the disease

is self limited tending to arrest itself in time. Engel (62), however, in a similar questionnaire follow up of cases treated by all methods found far the highest mortality among those treated medically. The percentage of cures did not exceed those from X-ray or surgical treatment and the duration of treatment was longer. Satisfactory results were obtained in younger patients with milder forms of thyroid intoxication. Engel concludes that medical treatment should be limited to cases of this type.

X ray treatment is recommended by Williams (199) Menville (128) Quiglev (155) Pfahler (151) Read (161), Labbé and Azérad (105) and Gaal (70) Menville received 75 replies from 200 questionnaires sent to radiologists. He tabulates the results of treatment by radiation in 10 541 cases, and reports a cure in 60 per cent improvement in 21 per cent, failures in 12½ per cent and recurrences in 81/2 per cent. These figures comcide approximately with those reported by others mentioned. There is still a striking lack of accurately controlled and followed series of cases with studies of the basal rate such as are avail able regarding surgical treatment. Until such controlled reports are available the true value of X ray therapy will be difficult to determine. That X ray treatment is not without danger is evidenced by the report of Schiodte (108) of a fatal thyroid crisis following X ray exposure

atal thyroid crisis following X ray exposure

The pre-operative preparation of patients

with toxic goiter by means of iodine has found almost universal acceptance in the international literature. This agent, together with the usual rest and dietary and symptomatic medicamental treatment, is used routinely wherever thyroid surgery is done. In a study of the range of effective iodine dosage, Thompson, Thompson, and Cohen (187) found the daily administration of 0.75 mgm, to constitute the usual minimal effective dose. They state that the mortality from thyroid surgery has been reduced in the leading clinics from 1 to 4 per cent to from 0 25 to 0 7 per cent since the introduction of jodine. In refractory cases, they advise waiting approximately four weeks and then repeating the iodine administration. Keenig (101) states that from 70 to 80 per cent of all patients with toxic goiter admitted to the Leipzig Clinic had been previously treated with rodine Refractoriness to lodine was observed in 38 per cent of the cases among which several fatalities occurred. Winkenwerder and McEachern (200) found iodine remission to occur in 144 of 157 cases studied with an average drop in basal rate of 50 per cent during an average period of thirteen and one half days. The remission was trainition; a recurrence usually developing whether rodine was continued or not. Winkenwerden and McEachern urge that iodine he given only as a pre-operative measure. No difference in response was seen in diffuse as compared with nodular gotters, and the effect was independent of the preparation or solution of soline used. Links (11) advises the blowing of oxygen against the mucous membranes of the gums as a means of increasing the oxygen termon in the blood. This procedure is said to ameliorate the symptoms and to lower the metabolic rate. Smirnov (1 7) claims that European statistics reveal a mortality rate of from 5 to 6 per cent, except in Oppel's clinic, where the rate formerly was 0 3 per cent and, since the introduction of pre-operative blood transfusion, has dropped to 2 2 per cent.

Little has been added to the operative technique of thyrodectomy. The operation is apparently standardized, with only minor differences as performed by different operators. Avertin is finding considerable use as a negangsthetic (Nell, 130) in conjunction with local anzisthetics and mirrors conde. There is still a difference of opinion as to the wisdom of 1 stage as contrasted with multistage operations. Richter (161, 165) advocates the 1-stage attack as the routine treat ment, and his low mortality rate (0.50 per cent) rustines has assertions. Most surreons, however employ the 2-stage procedure in certain selected cases. Jackson (93) uses it in cases of sodine-fast coster. In the Laber Clinic, multiple-stage opera thous are still done in so per cent of the cases. Laber believes that, particularly in the "another to type" of hyperthyroldism, multiple-stage opera nons are indicated. Roeder (166) has noted a relatively high incidence of voice changes follow my thyrodectomy in cases in which there was definitely no infary to the recurrent laryageal nerves. On the basis of a study of the innervation of the larynx, he points out the proximity of the branches of the superior laryngeal nerve to the upper pole of the thyroid. When the superior note is high, this nerve may be injured, with the production of various sensory and motor disturbances. Roeder describes a technique for the avoidance of nerve injury and other damage during operations on the superior pole of the

Modern surgers with adequate pre-operative preparation and the use of local and nitrous mode anesthedia, is essentially safe, as the consistently low mortality rates, particularly in the larger series of cases, indicate. The results of treatment are emmently satisfactory the late results, when checked by an accurate follow-up

are good, and the incidence of serious complications is low Proper selection of the time for operation is an important factor in the reduction of the mortality rates. Seed (175) establishes certain enteria of operability based on the weight curve, muscular strength, metabolic rate, and general condition of the patient. Richter (164,165) as stated, reports 1 235 consecutive cases of thyrotomeous with a case mortality of o.80 per cent. He has personally followed 1,000 of the patients with repeated determinations of the basal metabolic rate. Of this series, oo per cent were completely relieved of their intoxication, as evidenced by a normal metabolic rate. Of the remaining 39 patients, 23 consented to re-opera tion and 21 of these were cured. Ultimate success was therefore obtained in 98.4 per cent of the cases. The so-called relapse, or recurrence, Richter compders practically always due to rendual hyperthyroidism from failure to remove an adequate amount of the gland. Brenizer (31) reports 2813 thyroldectomies with 17 deaths. Seventeen of the patients continued to be hyper thyroid and were re-operated upon, with ultimate rebef in all but i In a number of the cases transitory hypothyroidism was manifested, but perusted in only r. One fatal tetany 3 mild ones, and a unilateral laryngeal nerve paralyses were observed. Clute and Veal (42) carefully studied the end-results in a senes of patients who had been operated upon over tive years previously. Of the or patients in the series, 82 were completely and satisfactorily cured 7 manifested alleht toracity which was entirely controlled by the continued use of iodine 3 developed myxerdema which was entirely controlled by thyroid ex tract 4 were still torac, but were able to work. One patient died following a recent operation for recurrent hyperthyroidism. Clinte and Veal conclude that 92 (94.8 per cent) of the patients are cured by adequate surgical therapy \ochren (142) reports a similar series examined after two years, 04.75 per cent of whom showed completely satisfactory results. Allowing for those he was unable to follow he estimates the incidence of permanent cure at 00 per cent and the mortality at 1 per cent. Of 12,600 patients whose cases are reviewed by Crile (46) 97 per cent were in good or fair condition one or more years after opera tion, 3.03 per cent had persistent hyperthyroidism 2 7 per cent had hypothyroidism, 1 per cent had tetany and a per cent had recurrent buyingeal perve paralyps.

Complications and sequelæ following thyroidectomy. Under the title "Postoperative Graves Disease," Bram (23) discusses the cases of 562

patients with hyperthyroidism who had under gone I or more thyroidectomies These constituted 13 per cent of his total material. Bram differentiates several forms of postoperative Grave's disease, including persistence of the original syndrome without an intervening period of apparent normality recurrence of the symptoms after an interval of normality the existence, in combination, of so-called hypothyroidism and hyperthyroldism, with or without a brief period of apparent well-being immediately following thyroidectomy, and persistence or recurrence of Grave's symptoms with a complicating acromegaly or psychosis. He infers from his observations that Grave's disease is not the same as hyper thyroidism and is not primarily a disease of the thyroid. He therefore objects to routine thy roidectomy in the treatment of the condition. The acute thyroid crisis is discussed by Greene and Greene (77) Although this complication usually follows thyroidectomy, it may occur after psychic traumas or with intercurrent infec tions. Greene and Greene report fatal cases following tonsillectomy and the injection of varicose veins in patients with hyperthyroidism. Early recognition and therapy consisting of the administration of todine, fluids glucose and morphine are demanded. After recovery from such a crisis, an adequate period should elapse before surgical intervention is undertaken. Fatal air embolism following substernal thyroidectomy is reported by Urban (193) and fatal pulmonary embolism arising from thrombosis of the left hypogastric and illuc veins following thyroidec tomy for an apparently toxic nodular golter is reported by Lieblein (116) The latter is of interest in view of the proverbial infrequency of embolism following thyroidectomy and the post operative use of thyroid as prophylaxis for em bolism. Boshamer ("1) asserts that thyroxin offsets the vagotonic effects of abdominal opera tions and thereby is effective in reducing the tendency toward thrombosis and embolism.

Discussing influries of the recurrent laryngeal nerve, Labey (106) states that the adductor fibers are more renistant than the abductor fibers. If bilateral complete division occurs the cords first assume a cadaevera position permitting adequate respiration, but preventing normal phonation. Later as the result of fibrosis and contraction, the cords approximate one another, with restoration of the voice, but with dyspines on certrion. Respiratory obstructions occurring during or immediately after operation are usually due to angulation or pressure on the traches. Submucous resection of the cords has been found

of value in old long-standing cases of bilateral abductor paralysis, permitting removal of the tracheotomy tube. Froeschels (66) reports good results from training patients with unlateral paralysis of the recurrent nerve to limit the amount of air expired while speaking. By this means they are able, within a short time to learn to speak in a pleasant voice.

The parathyroid glands, according to Collip (44), regulate the calcium metabolism by acting upon the connective tissue elements of the bones For the treatment of parathyroid tetany Schult zer (174) recommends injections of parathyroid extract together with calcium chloride and Vitamin D by mouth. When the blood calcium reaches the normal level he stops the hormone injections and continues treatment with calcium and Vitamin D O'Brien (144) collected 42 cases of cataract complicating postoperative tetany, and adds 3 of his own. The cause of the cataracts is unknown. The condition is frequently bilateral and may progress in spite of treatment which controls all other manifestations of tetany. The lens changes are not specific. Operation is the only

known treatment.

Naffriger (136) reports 6 cases in which exoph thalmos progressed after aurgical relief of hyper thyroidism, with serious damage to the eyes and impairment of vision. Operation, consisting of intracranial removal of the orbital plate and the roof of the optic foramen, was done without mortality and with striking recession of the exophthalmos and improvement in vision ocular muscles were found to be enormously increased in size. Specimens of these muscles removed at operation were found to be pale, cedematous, and fibrotic. The increased bulk of the retrobulbar trasues due to the myositus is considered to be the cause of the exophthalmos. Friedenwald (66) examined the orbital tissues in a series of 6 cases of exophthalmic goiter that came to autopsy In t of them in which no operation had been done, changes in the ocular muscles similar to those described by Naffziger, were found. The orbital trouble had apparently preceded the hyperthyroidism in this case by several months. Friedenwald believes that the orbital myositis is a separate disease entity, and not part of the ordinary picture of hyperthy roldism. A case of artenovenous aneurism of the thyroid vessels following thyroidectomy is report ed by Selman and Freedlander (176)

HYPOTHYROIDISM

Recognition of the relation of hypothyroid states to clinical syndromes and dysfunctions of

various organs finds expression in numerous renorts from many fields of medicine. From the field of otolaryngology Bryant (33) records relief following the administration of thyrold in cases of nersistent ecrems and formorphisis of the anditory cenal timpitue tubal cetamb and otoademais as well as nassl obstructions inflamma tions boarseness migraine and tripeminal new rabria. Rebef of keratodermus of the palms or the soles in hypothyroidism, by the administration of thyrold is reported by Mussio-Fourmer (134) Gynecological disturbances, chiefly menorrhagia, may be due to hitherto imperomized hypothy roldson and may occur even in the presence of a normal metabolism according to Waters and Williams (107) Breckunridge (25) attributes cases of amenorrhom, abortion, premature labor and death of the fetus to lack of thyroid. Two cases of myrordems heart" are reported by Ayman Rosenblum and Falcon-Lesses (12) Enlargement of the heart with return to normal following thyroid treatment is considered a diagnostic feature of this condition. Abdominal neins suggesting surgical disease may also be due to hypothyroidism, according to Hinton (86) Ancites on a hypothyroid basis is described by Evans (63) and Beretervide and Herrera (15) Stell (181) describes personality changes due to myxordema which may even lead to commit ment to an institution for the treatment of mental disease. Cattell and Ramsey (17) report delayed ossification in hypothyroldism during the growing period Stokes (180) emphasizes the value of blood-cholesterol determinations in the dugnosis and treatment of myxordems. He tinds the cholesterol increased from the normal (160 to 200 mgm. per cent) to values ranging from 311 to 1,000 mgm. per cent Under thyrold therapy these values fall to within normal limits. Youmans and Riven (206) believe that the clinical necture of hypothyroidism without myxcedems is more com mon than is generally appreciated. The absence of definite algas and symptoms of myxordema and the vagueness of the symptoms account for the difficulties in diagnosts. Of great diagnostic importance are the basal metabolic rate and the response to thyroid therapy

ANOMALIES, INFLAMMATIONS TUMORS

Aborant thread tisse. Morits and Bayless (133) report 0 cases of latest leavaged tumors arising in aberrant thyroid tissue. These tumors were truly aberrant as the were not connected with the thyroid gland. Some were multiple, others single. Benign, malignant and combined management growths were included in

the 6 cases. The benign as well as the malignant tumors were frequently papilliferous. Other cases are reported by Vidgoff (195) Eberts (58) and Cooke (xc)

Ulrich (102) states that in most of the reported cases of lineual goiter in which extimation has been done, the operation resulted in reveredence. The reason for this is that downward development of the gland usually ceases when it is arrested at the base of the tonerse. The mere presence of a lungual thyroid does not indicate its removal. Survey is justified only if symptoms are being caused. Ulrich advises preliminary trachentomy in such cases and exploration of the thyroid region to determine the presence or absence of a normally situated gland. If excision is done, thyroid therapy should be immediately instituted. In addition to Ulrich a 2 cases, others are reported by Zierelman (208) Grace and Weeks (76) and Biss (10) Ovarian strums is described by Witherspoon (201) and Macleod (121) In both cases the thyrold tissue was part

of a teratomatom evet Inflammations of the thword gland The subject of thyroiditis is reviewed by Clute and Labey (41) They divide the inflammations into simple. suppourative, and chronic forms, each of which may appear primarily in the thyroid gland or may be secondary to a general infection. As a rule inflammation of the torsils, teeth, or upper respiratory tract precedes the thyroid involvement. Chronic thyrolditis includes non-specific inflammation which may follow an acute thy roiditis or may be secondary to inflammations elsewhere. This form may be accommunied by hyperplasia and symptoms of hyperthyroldism. The specific forms include Riedel's strums, tuberculous thyroiditus, and syphilus of the thyroid gland A case of gonococcal thyroiditis with abscess formation is reported by Alexandresco-Dersca and Jonesco (5) Tuberculous of the thyroid producing clinical manifestations is rare. Rankin and Graham (157) report that in the microscopical examination of 20,718 glands removed surgically at the Mayo Clinic over a period of eleven years, tuberculosis was diagnosed in 21 (approximately 0.1 per cent) In only 3 recorded cases has the diagnosis been made preoperatively Hyperthyroidism with a basal metabolism of +10 or higher was noted in 15 of the Mayo Clinic cases. Rankin and Graham were unable to determine whether hyperplasis of the gland predisposed to tuberculosis or was secondary to it. Convalencence after thyroloectomy was the same as in uncomplicated cases, and the progress is considered as good.

Tumors That the ordinary nodules of the thyroid gland which were formerly considered adenomata should be removed from the category of neoplasms is generally conceded Whether there are true adenomata of the thyroid gland as distinct from this category is still an open question Lakey (110) believes that fetal adenomata occur, and usually as single, discrete, encapsulated nodules. He states that almost all malignancies of the thyroid in his cases have arisen in such nodules. Since these nodules are benign for a time and since it is impossible to predict when malignant degeneration will ensue, he believes that removal of such nodules should be done as a prophylactic measure. Three cases of carcinoma of the thyroid in children from the same clinic are reported by Cattell (36)

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ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Adelstein, L. J., and Courville C. B.: Traumatic Osteomyelitis of the Cranial Vanit, with Par ticular Reference to Pathodenesia and Treat ment trak Sare att. and etc

Secondary ostcomvelitis of the cranial vault following miuries to the head is not very common. Its infrequency is due to the improved treatment of scalp injuries by the removal of foreign bodies which contammate the wound, the excision of destroyed timpe and the use of antisenties. The organisms causing the condition enter the bone in several ways. In local bruises with or without open wounds they are premutably introduced by the traumatic agent or from infected bair follicles. In closed wounds they may sometimes be blood borne. In open wounds they may be introduced into the bone when the outer layer is ground off by scraping or glancing injuries which are often accompanied by irregular tearing or avulsion of the overlying scalo. In cases of compound comminuted fracture of the skull frank infection may develop either immediately or after an interval of latency. In some cases the bacteria are introduced secondarily by extension of skin infections such as furuncles or boils.

On the basis of its characteristic appearance in the roentgenogram, traumatic esteemyelitis of the skull

may be classified as follows

I Localized osteomyelitis following an open wound of the scalp, a local injury which has left the scalo intact, or the direct implantation of infection into the diploe by abrasion of the outer table. 2 Spreading osteomyelitis following invasion of

the diploic venous channels from a fracture line or operative defect.

3. Infectious necrosis of fragments in a comminuted skull fracture due to direct or indirect infection of the fragments from a contaminated over lying wound or a secondarily infected operative wound.

As is characteristic of localized esteitis of the skull, extradural aboves is the most common intra cranial complication. The accumulation of rus is the result of a downward spread of the infection through the inner table. Local dural hyperzmia is followed by the formation of granulation theme and the exudation of pus. In most instances an extra dural abscess is evacuated spontaneously by dissolution of the overlying bone, but occasionally trephins tion and drainage are necessary. These procedures are indicated when evidences of sepals and localizing neurological signs make their appearance in a recog

nized case of osteomyelitis. The authors cite examples of infection of this type and point out that be cause of the peculiar anatomy of the flat bones of the skull, the arrangement of the blood spooly the diploe and the closed venous system, radical procedures have no place in the treatment of the condition. The treatment indicated is the opposite of the treatment indicated for acute orteomyelitis of the long bones.

The prevention of osteomyelphs of the skull depends mainly on careful handling and thorough debridement of wounds of the bead causing compound fractures with indriven fragments of bone and debras from the street. It is necessary to remove all fragments of commitmeed bone, hair and other extraneous materials, which in such cases always mean potential infection. A thorough debridement of irregular margins of wounds after the removal of foreign material will often allow bealing by primary intention. In the course of exploration for underly ing fractures it has been the practice also to iodinize thoroughly and repeatedly all wounds extending through the gales. The active case may present an infected appearing wound of the scalp with irregular edges which drams variable amounts of foul-smelling pas. The type of involvement of the bone is sugpested by the history of the case and can be deter mined definitely by roenteen examination. The local treatment consists of daily dreatings with care ful cleansing of the wound and the application of bal sam of Peru. Balsam of Peru is slightly antiseptic, keeps the wound moust, and favors the formation of bealthy granulation tissue. Eroberant granulations that threaten to close draming sinuses should be canterized with a silver nitrate stick.

The process of segmentration is often slow and should be checked roenteendorically every three or four weeks. The time of separation of the infected fragments depends upon the virulence of the infec tion and the type of the lesion. In some cases the sequestrum is discharged spontaneously and is found at the time of the daily dreasing. If the sequestrum is large enlargement of the opening of the discharge ing sinus may be sufficient to permit the passage of the bony fragments. As a rule healing does not take place until all large sequestra have been discharged or removed, but in two of the authors cases of exterminelitis of fragments in comminuted trac tures it occurred when small fragments were still present. Occasionally surgical removal of well formed sequestra is fostified to shorten the course of the infection. At no time is it warranted or necessary to smooth the surrounding edges of the difect

in the skull, as this procedure tends only to open widely the diplote spaces and permit the spread of the infection. Under ordinary circumstances the most rational type of surgical treatment for trau matic cateomyelitis of the skull is ample removal of completely detached sequestra. The occurrence of an extradural abscess that does not dram and the formation of a secondary subdural abscess necessitate exploration and drainage preferably at the site of the original bony secrous. In some cases it may be necessary to enlarge the opening made by the burr as an extradural abscess may not be located immediately beneath the area of focal necross.

It is of importance to build up and maintain the patient a resistance as this type of infection usually runs a course of months. In the cases of patients in poor condition and in those of children such measures as exposure of the body to ultraviolet light or the sun and the administration of cod liver oil are employed. Such patients should be ambulatory and out of doors as much as possible. If no complications arise, they may be treated in the office and, with suitable protection, may carry on their occupations.

MANCHE Licenterspress M.D.

Chen H I and Loucka, H. H.: Composite Tumors of the Salirary Glands A Clinicopathological Study of Forty Five Cases. Chinese II J 1933 xivil, 138.

The authors discuss simple mixed tumors and these with malignant changes, but not tumors which were primarily malignant. Twenty-eight of those reviewed were in the parotid region, nine were in the submaxillary region and eight were in the relate.

Mixed tumors contain elements simulating tiesues of both epiblastic and mesoblastic origin. Several theories regarding the origin of these tumors are reviewed According to the theory most widely accepted, they are of ectodermal origin. Embryonic rests or inclusions of mesenchyme derived from ectoderm may account for all of the various tissues found. Ewing agrees that the tumors do not arise from endothelial timue, and concludes that no one source has been definitely established. These of the adenomatous type probably develop from the acini and ducts of the gland. The basal-cell and adenoid cystic endotheliomata are encapsulated or extraglandular arising from misplaced or embryonal tissue or from branchial remnants. Mucous tissue and cartilage may be derived from epithelium and do not need to be included among the tissues of origin.

Various factors have been suggested as predisposing to the development of mixed tumors, but in only three of the authors cases was three a history of association with other factors. In one of the latter three was a history of trauma in another a history of abscess and in a third a history of severe toothache.

Mixed tumors are usually encapsulated. They may lie on the surface of the gland or may be em

bedded in it. They may be connected with the gland by a pedicle or may be found at some distance away from it and with no apparent connection to it. They are associated with the parotid, submaxillary, and palatial glands in the ratio of 6 z 1 Occasionally, they occur in the lips, nares, and cyclids. They are not found in the tongue or the sublingual glands. They are often lobulated, and may present both hard and soft areas. Because of the heterogeneous composition revealed in the cut section the diagnosis can usually be made from the gross specimen. The tumor may be composed entirely of a clear homogeneous mucinous material separated by thin septa, or may be cellular throughout and pale grav Varying amounts of cartilage may be present

On microscopic examination the parenchymal epithelial cells show two general types of arrange ment either forming glandular or cystic structures or appearing in irregular masses, strands, or anastomosing columns. The cells of the glands or cysts are usually small and cuboidal whereas those of the solid cords or strands are cuboidal polygonal, or rarely spindle-shaped. There may be masses of typical squamous cells with characteristic inter cellular bridges and keratin pearls. The stroma consists usually of fibrous or muchous tissue or cartilage, less frequently fat and bone are found. The fibrous tissue may be dense or loose. It may have become hyalimzed and have a deeply acidophilic stain or the fibers may be loosely arranged and the intercellular spaces filled with a pale blue homogeneous substance presenting the appearance of mucinous tissue. When the intercellular substance is increased in density the appearance is that of a cartilaginous matrix. An intermediate stage has been named pseudo-cartilaginous tissue. Morphologically the epithelial and stroma cells are closely related and a complete series of transitional forms between epithelial cells and mesoblastic cells may be seen.

Forty-one of the neoplasms reviewed by the authors were typical mixed tumors varying mainly in the amount and type of the different tissues Four of them were very cellular and showed predominant epithelial tissue and a scanty fibrous stroma. The epithelial cells varied in size shape, and staining qualities and showed numerous mitoses. These tumors proved to be malignant.

Mixed fumors may occur at any are but are most

frequent in the third and fourth decades of life. They occur with equal frequency in both seres and on both sides of the body. In the cases reviewed the shortest duration of the neoplasm before operation was air months the longest thirty-seven years and the average eleven and a half years. The longers treported duration in other series of cases was forty-eight years. The longer average duration in the cases reviewed by the authors was in agree ment with the advanced age at which most conditions receive treatment in China. As a rule there is a history of slow growth of the tumor for years with a period of more rapid growth just before the patient

sought treatment. A history of recent rapid growth may indicate malignant change in a previously benign tumor. The size attained by the necoplasm varies from that of a walnut to that of an adult a head.

Turnors of the nalate cause early symptoms Most of them are of firm consistency. Many contain both hard and soft areas. Some are evatic or of an elastic consistency. The antiace of the arrowth may be smooth lobulated or podular. As a rule the tumor is freely morable. Fixation indicates the development of invasive powers and suggests malionancy Regional and remote metastases are rare. Local glandular involvement occurs late even after malignancy develops. Emgion of the mandible by a submarillary turnor was found in one of the cases reviewed, and erosion of the hard nalate in two cases of nalatal emouths. Ulceration occurred in five cases, and healed picers were found in three. In every instance ulceration followed needling or the application of native medicinal plesters

parameters oper cent of the cases pain developed late in the course of the condition. As a rule it was an occasional symptom, and in many cases it occurred only after manipulation, indexion, or the development of siceration and infection following the application of a plater. In one case the averant cannial nerve was paralyzed. In one case the paralysis of this nerve was due to a previous operation and in the other was associated with paralysis of the fifth remain nerve due to malignancy. Loss of weight interference with chewing awallowing, or talking, as occurred in from one to air, cases of the series. The general condition was usually good. Anamia was indefinitional.

The treatment of choice is easy complete nmoral. Late of incomplete removal is often followed by a malignant recurrence. Mixed tumors are unally well encapsulated and can be enucleated under local anresthesia. Radical operation is difficult, particularly in the parotif region where a part or all of the gland must be removed. Stenson a duct and the branches of the facial nerwe must be protected. Previously ligation of the external carotid artery makes the operation easier and safer by controlling the bleeding which would be extrassive without it.

without at the day of the property of the provided and submarillary glands. They believe this to be unsafe even in the early stages because the epithelial cells are concentrated at the periphery where they may adhere to or penetrate, the capsula and therefore may be left behind. Gentle handling to pre-turn jurpare and spilling of the contraint of the periphery. If they are lacorporated in the tumor in the provided of the contraint of the provided of the contraint of the periphery when they are the provided of the contraint of t

irradiation offers palliation and controls the growth. The authors experience with irradiation has been too limited for them to express an opinion regard ing it.

The prognosis of mixed tumors of the salivary glands is excellent when radical excision is done at the primary operation. The dangers arise from (1) traumatization, (2) delay of treatment until malignant changes has occurred, and (3) incomplete operation.

of the patients whose cases are reviewed, twenty are well, three have a recurrence, and twenty-two cannot be traced. Of the twenty who are well, eleven were operated upon more than a year ago. Nine (so per cent) of the tumors showed malignant changes on microscopic examination.

E S. PLATE M.D.

EYR

Fuchs, A: Concerning Unusual Ulcers of the Cornea and Their Treatment. Bell. J. Ophia 1031, N.H. 103

Following a brief description of two common types of corneal uter herpetic and marginal infiltrates due to cache rosacce the author reports cases of keratomycosis fuscicularis, marantic uter dendritic keratitis dendritic keratitis with second any infection or arilled geworden herpes," and servicenous uters.

Beginning serpent ulcers are canterised with the electric cautery if a considerable part of the pupillary area is clear. If the pupil is covered by ulcerated cornes, the base of the ulcer is trephined directly over the pupil and within the advancing border of the oker if possible The trephine opening is 1) mm. In diameter and is placed so that no anterior synechia will occur. In making the trephine opening great care must be used to avoid injury to the lens, since Descemet a membrane is separated from the corneal stroma, the anterior chamber contains a hypopyon, and one may perforate the corpes without having any aqueous gush forth. Injury to the iens is avoided by opening the inner corneal layers with a Graefe knife beld parallel with the plane of the iris. After the eye has become quiet an optical iridectomy is done at the most advantageous site.

Fuchs has found this method of treatment superrito any other since progression of the alort is stopped at once unless it due to an overwhelming infection which nothing will stop. The resulting scar is smaller than the scars following canterization. Supers, A. Dreg, M.D.

EAR

Druss, J. G.: The Rôle Which the Epidermie Flays in Suppurations of the Middle Ear. 4rd Otologyapol., 1913, will, 484.

Following a review of the literature on the role of the epidermis of the tympanic membrane in suppurations of the tympanium and mastold, the author reports a study of serial sections of 120 temporal bones. He states that not infrequently it is found that the epidermis has grown onto the inner aspect of the tympanic membrane. This struggle between the mucosa and epidermis is often the cause of suppursition even in the absence of bone disease or an open custachian tube. In 3 of the author's cases there was an invagination of epidermis in Shrapuel's membrane.

In conclusion Druss discusses the various theories regarding the cause of primary cholesteatoms and the variety of therapeutic measures advocated for chronic suppurations of the middle est

Grorer R. McAulier M D

NOSE AND SINUSES

Bernheimer L B and Cutler, M The Effects of Radiation on Allergic Nasal Muccea A Further Report. And Otologyagot, 1033 xvil, 658

Of forty cases of vasomotor rhinitis treated by irradiation, antisfactory clinical results were obtained in a large percentage. The results have re mained constant for a period of one year

The method of irradiation described is safe no untoward results having been observed in any of the cases in which it was used

The authors are now investigating the clinical and histological effects of irradiation in cases of hay fever JAMES C. BRASWELL, M.D.

Fenton, R. A. and Larsell, O.: An Experimental and Clinical Study of the Histocytes in Acute and Chronic Inflammation of the Accessory Sinuses. Largestops, 1933. 1881, 233

In an attempt to determine the rôle of the histiocytes in inflammation of the nasal accessory sinuses the authors carried out experiments on the mucous membrane of the cat and human mucous membrane. In the experiments on cats, injection of the frontal slous with a large variety of substances was followed by a subcutaneous injection of 1 per cent trypan blue and fixation of the inflamed mucosa after two or three days. The experiments on human mucous membrane were made in selected cases of inflam mation of the maxillary sinus in which the involve ment appeared both clinically and roentgenologic ally to be equal. The two sides were treated differ ently and after a lapse of time the membranes were removed by radical operation and studied histologically

Among the substances used were castlle soap jelly a thin glucose solution, a 50 per cent emulsion of occasant oil, jelly of chondrus cripus, milk of magnesia, 5 per cent calcium hydroxide, 1 per cent calcium lactate 1 per cent sodium phosphate, and 2 per cent dichloramin T

The findings indicated that the local use of solutions or suspensions of alkaline earth salts or by droxides favors the mobilization of histicoytes. Oily and colloidal substances destroy the epithelium and favor infection by impairing cliiary action, thereby

leading to invasion of the subepithelial stroma by polymorphonuclear cells without an increase in histocytes. The chlorides seem to favor ordematous changes with a marked increase in lymphocytes lour F DELFM, M D

MOUTH

Duffy J J Conservative Procedure in the Care of Cervical Lymph Nodes in Intra Oral Car cinoma. Am. J Rossignol., 1935 221x, 241

Attention is called to the correction of a typographical error which occurred in the abstract of this article appearing on page 6 of the July 1933 issue of the INTERNATIONAL ABSTRACT OF SURGERY The first sentence of the fifth paragraph should read "In cases with operable metastases in the lymph glands, complete removal of the contents of both the anterior and the posterior triangles of the neck, together with the sternomastolid muscle and internal jugular vein, is done

Vereddinskij, A. The Treatment of Tumors of the Soft and Hard Palates (Ueber Behandlung der Geschwielate des harten und welchen Gaumens) Nos chir Arch, 1938 xxvi, 161

The author discusses the treatment of tumors of the hard and soft palates and the uvuls on the basis of twenty five cases of such neoplasms—twenty cardnomata, four epithellomata (mixed tumors) and one melanoma.

In cases of well circumscribed and freely movable carcinomata of the soft palate and uvula, electroexcision and radium puncture give equally good results. Radium treatment has the advantage of leaving a better functioning soft palate. When the tumor is not limited to the uvula, electro-excision may influence phonation unfavorably For leucoplakia, hyperkeratosia, and the so-called

precancerous involvement of the gums, electrocoagulation or the application of radium by means of

a celluloid prosthesis is recommended

In cases of uncomfiled cancers of the soft pelate, which sometimes apread to the pharynx or tonsils, a preventive irradiation with the X rays followed by the intra-oral application of radium is indicated. For cases of comflict cancer of the gums involving neighboring organs the author recommends the external application of radium followed by electrocarsion and the internal application of radium. When a sufficient amount of normal tissue remains, radium puncture may be used instead of electrocarsion if the condition is only moderately advanced.

Cases of cancer of the gums with involvement of the cervical glands must be treated individually according to the extent of the cervical metastases. After reenigen irradiation a radical operation according to Crile a technique may be done In cancer of the gums with considerable enlargement of the cervical glands the prognosis is poor but in moder ately advanced cases which have not been neglected

and are properly treated it is good,

**6

The so-called mixed tumors, which in reality are enitheliomata, are treated best by operation.

Localized melanomate of the sums may be re

moved by electro-excision.

The author's results were as follows. Of eighteen patients with cancer of the gums, eleven are clinically well and seven are dead. One of the latter died of pneumonia two years and three months after the treatment, without a local recurrence. In the cured cases the cure has lasted for four years, three and a half years, and six months in one case each, for two and a half years in two cases each, and for two years and for one year in three cases each

C. Attect (7)

RECE

Hanford, J. M. r. Sureical Excision of Tuberculous Lymph Nodes of the Neck. A Report on 131
Patients with Follow-up Results. Surg Clin Verta Am 1011 rib. eer

This is a report on 131 patients with tuberculosis of the neck who were treated by excision in the past nine years. The sucress of surrelcal removal depends on early disensels. The more common diseases with which early tuberculosis of the cervical nodes may he confused are low-stude adentitis, simple hyper plasts of the glands, simple chronic adenitis, schaceous cyst, Hodgkin's disease, lymphosarcoms, and brenchial cyst.

The chief characteristics of early toberculous of the cervical lymph nodes are

- 1 Nodes enlarged to from 1 5 to 2 cm. in diameter or a mass of a cm. or more pendating for longer then from six to eight weeks and associated with alleht or no evidence of scate inflammation.
- 2. Slight finctuation if liquefaction has begun 3 A slight but definite constitutional reaction characterized usually by anemia, loss of energy
- failure to gain weight, and loss of appetite. 4. Roentgen-ray evidence of calcification in the neck.
- 5 Microscopic evidence of tuberculosis in the removed toppils. 6 Sterillty of cultures of aspirated "ous from a
- fluctuating part which are made on ordinary media for pyogenic cocci.

7 Positive biopsy findings. As a rule biopsy should be a radical complete excision. Syphilis rarely if ever causes local enlargement

of nodes likely to be mistaken for tuberculous nodes. A positive Wassermann reaction does not rule out tuberculosis

The pathological changes are dependent mainly on processes cellular infiltration, necrosis, and fibrosh. These processes may be present in various combinations. In addition, there is the process incident to accordary infection, and the process of cicatrix

formation. Clinically tuberculous lesions in the neck are of the following 6 main types

1 Simple enlarged nodes.

2. A diffuse firm swelling (firm nodes with much periodentes) 4. Definitely fluctuating swellings, evidently con-

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taining fluid in quantity. These are "cold ab-SCENER "

5 Singers from former shareness which tend to nerel t

Skin tuberculosis either about the sinus onening or as part of a superficial cold abacess wall These types may occur singly or in various com-

binations and in various locations on either side of the nack

The examination of nationts with enlarged cervical nodes or discuse of the neck should include A complete history with particular reference

to facts concerned in the pathogenesis of the disease. 2. A complete physical examination. The lunes. spleen, abdomen, and other lymph-node regions especially should be examined. The neck should be examined with great care and diagrams made for

future reference 3 A study of possible foci of infection made by anecialists.

4. A routing urine examination, a complete blood count, and a blood Wassermann test.

c. An X ray study of the lunes and for evidence of calcification in the discused region of the neck.

6 In the cases of children, a skin tuberculin test. A microscopic examination of fluid, curettions,

or tissue removed. 8. Guines-pig inoculation with fluid or tissues if DECEMBER

o. Examination of tissue removed in therapeutic operations. Torolla emedally should be sectioned.

All of the operations reported were therapoutic. that is, not merely bioraics, and in all of the cases the presence of tuberculouls was proved by examination of the tienes.

Roentgenograms of the chest were made in nearly every case and abowed evidence of active tuberculosis in 13. As a rule it is not advisable to excise tuber culous lesions from patients with active disease of the chest, but there may be exceptions to this general policy if the lesions are small.

Among the cases reviewed there were 11 of perma nent parelysis of the lower lip or the trapezius mus-

cle due to operation

Operation was followed by a completely satisfac tory result in 60.4 per cent of the 131 cases. Eighty seven per cent of the patients were apparently cured, but had a defect of mirror importance in their appear appe or sensation.

The angesthetic used in all cases except those in which novocain was employed was other The ether was administered with an "angethetometer " Until the summer of 1030, anesthesia was induced with nitrous oxide, but since that time the use of nitrous oxide has been eliminated and the amount of ether decreased by the use of avertin.

Excision is a direct therapeutic method of removing tubercle bacilli from the body. There is no cer

tain method of destroying them in the living tissues. No doubt they are often rendered permanently in active by non-operative treatment, but this result is uncertain, and unless the bacilli are destroyed or removed they may cause re-appearance of the disease at any time

Excision in the safty or the limited stage of the discase gives as good a surgical result as operation for inguinal hernia. This means success in about 90 per cent of the cases. As in all surgery the cases must be selected. However almost all are at some time suitable for excision. Operation is often followed by rapid general improvement.

In almost all patients with active tuberculosis in the neck some evidence of toxemia can be detected All forms of non-operative treatment are so slow that the patient is subjected by them to an indefinite period of toxemia with possible damage to important viscers and delay of the recovery of health—Early radical removal terminates the toxemia.

CHARLES BARON, M.D.

Zweifel C.: Is Irradiation Treatment of Basedow a Disease Sometimes Fatal? (Gibt es Todesfælle im Anschluss an Basedowbestrahlung?) Acta radial, 1933 iv 33.

The author believes that the danger of death from irradiation treatment of Basedow's disease is being

much exaggerated, especially by those who are skeptical with regard to irradiation in this condition. A survey of the literature reveals the reports of twenty-eight cases of Basedow's disease in which death was attributed to roentgen or radium irradia tion. Zweifel believes that in more than half of these the death was due to some other cause such as operation, rapid progress of the disease, or a simultaneously existing infection, that it could be definitely ascribed to the irradiation in only eleven an insignificant number considering the thousands of cases so treated. In all of the eleven cases the condition was very severe and the death occurred within from twenty four hours to ten days after the last exposure although the patient had supported earlier roentgen irradiations without any trouble. It is difficult to find an explanation for the fatal out come in these cases. In the pathological picture there was absolutely nothing that might serve as a warning against irradiation. Zweifel believes it possible that an abnormally strong early endocrine shock reaction (Pordes) may have been the re sponsible factor

In conclusion Zwelfel says that because of the danger of Basedow coma (Zondek) patients with Basedow's disease who are suffering from an acute infection, such as anging for example should not be given irradiation treatment.

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G Atmov (Z)

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decreased by the use of avertin.

Excision is a direct therapeutic method of remov ing tubercle bacilli from the body. There is no ter sia contralateral sensory disturbances and, when the tumor is on the left side, aphanic disturbances predominate. In 8 anterior 11 middle, and 3 posterior cases these syndromes, in more or less typical form were noted 5 11, and 2 times, while in the remaining 4 cases no neurological symptoms of diagnostic value with regard to the site of the tumor were present

In regard to the operative technique, the question as to whether the tumor is adherent to the lon gitudinal sinus or the falx cerebri, or whether it is a meningioms on the convex surface, which in spite of its rich blood supply is less dangerous, is of great importance. Because of their alow growth the menin giomata frequently reach the size of a goose egg or sometimes that of an orange before they cause symptoms. Smaller tumors may cause symptoms if they are situated in the motor area. Thickening of the bone is found in almost all cases at operation but Olivecrona could demonstrate it roentgenologi cally in only about half of his cases. He regards the ventriculogram as of great value. It shows a marked displacement and deformation of the ventricle with comparatively slight widening in contrast to the

findings in cases of glioms.

At operation the flap of soft tissue and bone should be so placed that the longitudinal shous is exposed for a distance of at least to cm. In the presence of great vascularity of the soft parts, the bone, and the dura, the surgeon must be prepared to cope with severe hemorrhage. Olivecrona places a thin layer of cotton on the bleeding dural surface presses it firmly on the dura until the bleeding stops. and then cuts this layer of cotton with the dura which he leaves attached to the sinus. He opens also the dura on the other side of the sinus in order not to overlook a second tumor. When the sinus has been penetrated by the tumor the advisability of resection is questionable only when the middle portion is affected, because shutting off the vens rolandica may lead to paraplegia, whereas usually when the sinus is clogged up colleteral circulation is present. The arachnold membrane at the edge of the tumor is cut through only after the tumor has been freed from the sinus. After the necessary harmostasis the tumor can then gradually be re moved. The resulting dural defect is not covered especially, but the bone slap is again put in place. A piece of rubber dam is introduced for drainage for twenty four hours. A 1-stage operation, blood transfusion, and frequent puncture under the bone flap or lumbar puncture during the postoperative care are recommended.

Three of the author a patients died as the result of the operation. Two died from a recurrence which in a developed several months after the operation and in the other at the end of three years. One patient could not be followed up because he moved away In 5 cases a smaller or greater defect re mained. The remaining 11 patients (50 per cent) again became fully capable of following their occupations

Olivecrona summarizes his large brain tumor material in a tables.

TABLE 1 -TYPES OF TUMORS

Proved tumors	No.	Per cent
Gliomata	917	58 5
Meningiomata	53	14 3
Neuripomata	43	11.6
Adenomata	8	2 2
Hypophysesi infundibular cysts	11	30
Cholestentometa	ş	14
Angiografia		2.3
Tuberculomata	6	16
Metastases	14	38
Unclassified	٥	16
Total	371	
Unproved tumors	117	
Suspected tumors	150	
Total	644	

TABLE II -LOCALIZATION OF MENINGIOMATA

Paramgittal Convex surface of the cerebrum Pissure of Sylvius	No
Convex surface of the cerebrum Pissure of Sylvius	32
	7
	6
Suprasellar	5
Offactory groove	I
Gasserian ganglion	,
Lateral ventricle	
Fourth ventricle	5
Various altes	3
Total	53

In the discussion of this report, BAUER, PELS LEUSnew and Ormerckek each reviewed a case of meningioms, and Gulance discussed multiple PLEME (Z) meninglomata.

PRDIPHERAL MERVES

Bonola A: Post Traumatic Cubitus Valgus With Late Ulnar Nerve Paralysis (Paralisi tardive dell uluare da cubito valgo post traumatico). Chir d, organi di monimento 1932 XVII, 467

Bonola reports six cases of delayed paralysis of the ulnur nerve following early fracture at the elbow and the subsequent development of cubitus valgus He believes that the condition is relatively frequent and that it is generally considered rare because the patient falls to give a history of fracture the accident having occurred so long before the onset of the pa-ralysis. The paralysis has been attributed to many disorders including syringomyella

In a case cited the onset of the paralysis occurred fifty-one years after the fracture. In some cases the symptoms are so mild that the relation of the nerve lesion to the previous traums is not suspected. In others, limitation of extension and flexion of the forearm pain in the joint and bony deformity are the outstanding complaints. The nerve signs begin during a period of major activity. They develop gradually and may be intermittent. Sensory mans usually precede the motor signs and at times are associated with painful parasthesias. The latter are increased with flexion of the forearm. The sensory symptoms may disappear when the patient is at test. Many persons with such symptoms are forced to change their occupation to reduce the constant irritation of the nerve at the elbow. Attrophy of the makes supplied by the ulars nerve occurs gradually. If not treated the condition may progress to complete ulars prantylas. The paralysis is attributed to changes taking place as the result of repeated traums to the nerve at the febow during use of the

arm.

The stiology pathogenesis, and X ray character istics of cubitus valgus resulting from an injury in the first ten years of life are discussed at length.

Of the six patients whose cases are reported by Bonola five had a fracture of the external condyls of the humerus and one had a supracondyls fracture. The latent period in these cases ranged from were those to thirty-eight years. The symptoms were those characteristic of partial or complete lesions of the ulara nerve. Frankle and galvanic stimulation applied to the nerve and muscles elidited responses varying from signs of partial degeneration to those of complete deseneration. Three of the nationts were treated surrically. In two perrolads and anterior transposition of the plans nerve at the elbow were followed by complete return of function dr and seven months respectively after the onset of the symptoms. In one a similar operation performed one year after the onset of the symptoms resulted in marked improvement. In two the place person was found at menution to be diministed laterally and posteriorly and attached to the medial marrin of the olectanon. In one, it was not displaced, but had been subjected to repeated traums because of the amoriated bony deformity. In two of the sundcally treated cases the nerve was enlarged to twice its nor mal size and had the appearance of a pseudoneuroms. On histological examination fibrous there was found interposed between the nerve bundles.

various methods of treating delayed ulnur ps rulysis are discussed. In the author's opinion, neurolysis with anterior transplantation of the nerve is the procedure of choice. In some cases, however transplantation and neurorrhaphy are necessary

O 7, Joseph Jr., M.D.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Leo E. Purulent Mastills in the Maie (La mastite purulenta nel maschio) Clin chir., 1933 ix 200

The author discusses the etiology and pathology of purelier manifils in the adult male (as distinguished from manifils of the newborn and adolescent male) and reports two cases, those of men aged respectively twenty-seven and twenty two years. The condition is very rare—the chronic form more so than the acute—and its etiology is obscure

In the first case reported by the author there was a chroale paramastitis showing multiple abscesses with fistulous openings. The temperature was nor mal, and there was no enlargement of the stillary nodes. The pure was sterile. Bacteriological and histological examinations were negative for tubercu loss. The fland was removed completely

In the second case the condition was an acute staphylococcic panmastitis which had begun with suppuration around the nipple. The lesson was

opened and drained.

In neither case was there any suggestion of traums irritation or previous abnormality of the breast. The author assumes that in both cases the condition was due to a hematogenous infection, as in typhold and paratyphold mastills. He believes that in the first case the primary focus was in the intestine. The second patient had softered from perianal abscess and later from furunculous of the face, arms, and chest.

Leo gives an extensive bibliography and appends a list of thirty five cases of mastitis in adult males which he has collected from the literature. The first two cases were reported by Velneau in 1858

MARY ELIZABETH MORE, M.D.

Adair, F. E.; Plasma-Cell Mastitis. A Lealon Simulating Mammary Carcinoma. A Clinical and Pathological Study with a Report of Ten Cases. Arch Surg., 1933, xxvl, 735

The author reports an interesting type of lesion of the breast in which there is a preponderance of plasma cells. He has observed ten cases of this lesion in the past eight years. The term "plasma cell mastifit was suggested for the condition by Ewing who made the pathological studies. The lesion is benign precancrous and extremely difficult to differentiate clinically from carcinomes.

Plasma-cell mastitis has two stages, an acute stage and a residual stage. The clinician rarely has an opportunity to examine the patient during the acute stage because the pain, discomfort, and ten dermess are so mild that he is not computed.

The residual stage varies in duration from several weeks to several months. The patient seeks advice

because of a mass in the breast. The mass is not tender and may be either sharply localized or diffuse. There may or may not be a duscharge from the mpple. Frequently there is cedema over the mass or in the dependent portion of the breast, giving an orange peel appearance. The npple is retracted As a rule there are enlarged firm arillary jumph nodes. Acute and subacute inflammatory signs are absent and the lesion closely resembles mammatry actions.

In the differentiation of plasma-cell mastitis it is necessary to rely on a history of inflammation. In the author a cases, even though the breast was non lactating in all except one there was a history of acute inflammation accompanied by redness tender ness, and discomfort. This was the most important

single fact in the history

Two cases were observed for a period of two years before operation Practically no change took place in the leason during this time. Even the use of the breast pump over a considerable period had little influence, in spite of the fact that some secretion could usually be obtained from the nipple ducts.

The author regards the condition as precancerous because he believes that the chemical irritation of the retained puriform material results in profiferation of the lining epithelium until sometimes there are as many as six or eight rows of hyperchromatic epithelial cells lining the ducts. Therefore when the diagnosas is made pre-operatively he treats the lesion in the same way as other precancerous lessons removing the mass itself and leaving the rest of the breast unbouched.

Adalr's patients ranged in age from twenty nine to forty four years and their average age was thirty-six and three-tenths years. The length of time since the last lactation had apparently no etiological relation to the condition. In no instance did plasma-cell mastitis occur in an unmarried woman. With the exception of one patient who had had one miscarriage the average number of previous pregnancies per patient was about four This suggests strongly that improper drainage of the breast is an important etiologocal factor

The first symptom noted by the patient was pen which was frequently accompanied by localized tenderness, reduces, and a discharge from the nipple. However, these symptoms were so slight that the patient did not consult the physician until later when she noted a lump in the breast. In seven of the ten cases a thick, creamy discharge came from the nipple spontaneously or could be expressed from it

As a rule the involved breast was heavier than the other breast, as in carcinoms. The nipple was



Fig. 1 High power photomicrograph showing infiltration with plasma crils The cytoplasm is granular with eccentrically placed nuclei

definitely retracted in eight cases and the skin was adherent in six. In four cases the skin had a definite orange-peel appearance.

The tumor mean was always from or hard. It varied from a discrete, sharply outlined mass to a firm ill-defined but localized process. The largest mean measured 8 by 8 by 10 cm. In eight cases the sattlary lymph nodes were enlarged and hard. The praence of enlarged lymph nodes was more common than in cardromar.

The pathological interpretation by Ewing was briefly as follows

In the particular group of cases which has attracted our attention the plasma-cell infiltration is extremely abundant and widespread, producing rather bulky tumor masses which clinically resemble active cardinoma and even under the microscope may be difficult to distinguish from cellular car chroma-



Fig. 2. Photomicrograph showing a tremendous heaping up of duct lining cells almost filling the large ducts.

The main gross anatomical feature is the person of many such thickness ducts which are filled with purform material and may extend over a large segment or nearly the whole of the breast. In the most characteristic cases the cellular crudates in diffuse making a broad, opaque, somewat yellow tumor-tike mass in which the distended docts are less obvious or even not visible.

The plasma-cell crudate begins in the will of the ducts and extends between scinl in adjoining lobules when the process becomes diffuse. Foly morphonuclear leucocytes are present in variable numbers, but are often quite scanty. The phagocy tosis of fat is a prominent feature.

Trailieration of the lining epithelium is a peculiar Prollieration of the lining epithelium is a peculiar Prollieration. The affected docts are lined by from the line of the

" It may therefore be concluded that wide bacterial infection is probably a necessary factor in the process, its influence is less prominent than the chemical effect of decomposing fatty material." East O LATMER, M.D.

TRACHEA, LUNGS, AND PLEURA

Wall, C., and Hoyle, J. C.: Dry Bronchlectusis. Brit. M. J., 933, i, 597

The authors review thirty cases of dry broughter tasts collected from the literature and twenty cases which have come under their own observation during the past two years. In seventeen of their wenty cases there was a history of measles, whoopies cough, or broughousemonic. The most common symptom was a persistent dry cough, in every a group of the control of the control of the majority of the cases collected from the literature, but this was not true in the authors' cases.

The etiological factors of the condition are discussed. The treatment is directed toward the prevention or control of hemoptysis and sepsis.

In the authors opinion, day bronchiectasis is much more common than is generally believed and is often overlooked because of absence of the sputum associated with bronchiectasis of the usual type.

HEART AND PEDICARDIUM

Meillère, J.; Knife Wound of the Right Auricle; Suture; Recovery (Title de l'orellette droite par coup de coutau acture; guirison). Ball et min Sec nat de chir 1933, liz, 453

A man twenty-six years of age was admitted to the hospital twenty minutes after having received # knife wound in the left parasternal region. Examination fifteen minutes later revealed acute ansemus without dyaptoes, pain, or cough. The face was pale and there was slight cyanous of the lips. The pulse was feeble and slightly accelerated. The patient was entirely conscious, but his voice was weak. At the level of the third intercostal space on the left side 2 cm. from the sternum, there was a vertical cut 3 cm. long. A diagnosis of wound of the heart without a severe pleuropulmonary lesion was made

Operation was performed about one hour after the injury A progressive route of approach at the level of the third space was used. The fourth car tilage on the left side which had been pierced by the kuife was resected. When it was turned outward its external extremity perforated the left pleura. Sec tion of the third and fifth cartilages along the aternum was then done the internal mammary vessels were ligated, and the pericardium from the anterior surface of which blood was coming was ex posed. Wide débridement was done and a moderate hamopericardium evacuated. The wound in the anterior surface of the right auricle then became visible. The cut was a vertical linear incision x 1/2 cm. long from which escaped a jet of blood of about the caliber of a No 10 prethral sound. The heart was projected by rapid irregular beats. Be cause of the small size of the operative field and the lack of a Tuffier retractor it could not be seized Meillère checked the excape of blood by placing his left index finger over the wound. The rhythm imme diately became regular though somewhat alow. Following the introduction of a suture at either end of the wound the rhythm became almost normal. As the suture seemed to have checked the hemorrhage the posterior surface of the heart was not examined Suture of the pericardium with catgut, suture of the pleural wound muscular suture and finally cuta neous suture over a filiform drain were done. On completion of the operation a transfusion was given.

The next day the patient's condition was satisfactory but there was slight dyspnors. On the fol lowing days the temperature rose to 40.4 degrees C and there was general weakness with slight dyspnors, cyanosis, and symptoms of hemopheumothorax at the base. Eucalyptin-urotropin was given intravenously and a small suppurating hæmatoma discovered at the wound level was evacuated. The fever then subsided, but the general weakness per sisted. About 20 c.cm. of hiemolyzed blood were withdrawn from the right base. On the twelith post operative day the temperature rose again and there was polypnora with slight cyanosis of the face. Roentgenography showed an opacity at the left base and a mediastinal shadow causing considerable en largement of the normal cardiopericardiac shadow This opacity was interpreted by Meillère as indicat ing hymopenearchum but the patient a own physician attributed it to crowding of the heart toward the right by the pneumothorax.

After three weeks of gradual improvement the temperature again rose and thoracentesis yielded

400 c.cm. of an orange-colored fluid. Urotropin was injected intravenously. At the end of a month 250 c.cm. of a yellowish fluid were withdrawn, and a month later a smaller quantity was evacuated. By the end of another month the patient was completely curred.

Meillère regrets having used the progressive route of approach in this case as the operative field by this route is so small that manipulation of the heart is hindered and protection of the pleura is difficult. Moreover the use of this route is associated with the possibility of subsequent insufficient protection of the heart by the anterior chest wall. Meillère prefers median sternotomy to the lateral route.

The two best procedures for rapid and wide exposure of the heart in cases of cartiac wounds are
(1) the method of Fontan, which has the advantage
of requiring no special instruments but the dusad
vantage of rendering the left pleura more hable to
injury and (2) the median stematomy advocated by
Duval which gives better exposure but necessitates
the use of a powerful retractor which may not be
available.

In the diagnosis of complications reentgen examination is of great aid. In the case reported the mediastinal shadow was due to bloody infiltration of the mediastinum. The shadow produced by this condition is triangular whereas that produced by a beemopericardium is round.

EDTE 5 MOGE.

MISCELLANEOUS

Connors J F and Stenbuck, J B: Penetrating Stab Wounds and Bullet Wounds of the Chest Ann Surg 1933 xcvii 528

This article consists of a report on 68 cases of penetrating wounds of the chest operated upon be tween June 1 1932 and April 30 1932 and a description of a new operative procedure extra pleural extriorization of the lung injury. It in cludes all cases treated in order to show the difference in results in the 3 penods during the devel opment of the method of extenorization.

The usual treatment employed for penetrating wounds of the cheat in most hospitals suturing or packing of the superficial wound, results in cure in a great many cases but not infrequently is followed by hemorrhage or infection. Between June 1 1930 and May 31 1931 45 cases of penetrating wounds of the chest were treated in this way with 11 deaths, a mortality of 24.4 per cent. After a fatal termination in 3 cases in this the first period Connors decided that in the Harlem Hospital New York, all penetrating wounds of the chest should be operated upon to arrest hemorrhage from the internal mammary and intercostal arteries when these vessels are injured.

In the second persod from June 1 1931 to November 10 1931 there were 32 cases with 7 deaths a mortality of 218 per cent
In the third period from November 11 1931 to

April 21 1932 the operation was extended to per

mit exploration of the deeper portions of the wound execuation of blood and air from the pleura a search for long injury and fixation of the lung in extraplental exteriorization. In the 32 cases treated in this period there were a deaths, a mortality of ra s per cent.

In discussion the symptoms and siens and the method of examination of the nations on admission the authors call attention to a sign which they had not seen described previously vis. hallooning of the skin over an area of from 1 16 to 1 in in diameter which rises and falls with remitation at a point from 1 to 116 in candad to the wound of penetration in the skin, with no escape of air through

the wound

Hemorrhage from the internal mammary and intercostal vessels may cause death by entering the played cavity. Meadur hamorrham from the lung occurs frequently. Hemontysis occurred only tailer in the entire series of 100 cases. Injury to the disphraem occurred in 10 of the last 64 cases. in which an opportunity to make an examination for such injury was presented. In a case the disphraem was lacerated in a places. All but I of the disphraem injuries were on the left side

The abdominal viscers were insured in a cases of bullet wounds, but in none of the cases of stab

mounds.

In the second period, in which only the chest wall was operated on injury to the lungs was found in only 3 of the 32 cases, while in the third period, in which the lung was explored a pulmonary exion was found in 24 of the 12 cases

The causes of death in the first period before operation was performed routinely were not de termined as the autopsies were not observed by the authors. In the second and third periods, in which operation was done there were II deaths among the 64 cases. The causes of these deaths were (1) harmorrhege and sudden opening of the chest cavity and disturbance of the mediastinum on the table (a) pneumonia on the right side and complete collapse of the left lung (1) tense poeumothorax occurring on the sixth post-operative day (4) hemorrhage and abscess of the lacerated hing (c) massive hemocrhage from intercostal vessels followed by infection (6) injury of the disphraem with incarceration and gangrene of the fundus of the stomach (7) collapse of the lung on 1 side with compression of the lung and pneumonia on the other (8) septic picuritis with massive collapse of the lung on the other side (q) sepais on the seventh day arising from the chest wall where fragments of bone and bullet had remained (10) peritonitis and pocumonia following a bullet wound which caused bleeding of the guatric artery and was treated by operation performed on both the chest and the abdomen and (11) an undetermined cause.

The new operative procedure was employed in the last 12 cases. It is as follows

Soon after admission the patient is carried to the operating room by way of the \-ray room. Anesthesis is induced with a vertin alone or with a vertin and other. In cases in which shock is present intra venous injections of normal salt solution are started before and kept up during the operation. Frequently 1,000 c.cm, are given on the table. Blood transfersion is employed when necessary

On the operating table the patient lies on the unaffected ade and the incision is made t in or more lower than the skin wound. The skin and muscle are divided directly down to the wound in the pleum Two or three inches of rib are re sected subperloates.llv The intercostal muscle is left intact. This is important because hope tissue is later sutured to the muscle. The ends of the rib are smoothed by rongeur forcers. The intermetal vessels are ligated, the incision is enlarged and the picural cavity explored. The lung is grasped by the sponge forcers and held up to the chest wall to prevent mediastinal flutter The lung is ex amined and any lacerated portion is held by the sponge forceps. Blood is amirated from the cavity the lung is prought up to the chest wall, and all of the lacerated area is pulled out of the cavity and entered in this position to the ledge of plears. perforteum and muscle by a continuous ruture interrupted at each end. The lower edge of the lung is sutured first. lodoform gaure is rently packed into the lacerated area and around the suture line beneath the chest muscles, and the skin and muscles are sutured sourly over the sauge. The sauge is allowed to remain in situ for four or five days.

Even when the lung is not lacerated it is attached to the chest wall if the pleura has been penetrated, as in this way the subsequent development of a tense pneumothorax is prevented. In no case have the authors seen postonerative bernis of the lung.

The advantages of this method of operation are summarized as follows Blood and infection are prevented from enter

ing the pleural cavity 2 Fluttering of the mediantinum is prevented.

3 Preumothorax is diminished

4. Lung collapse is prevented. Subcutaneous emphysems does not occur

When the abdominal organs are also injured, the chest operation is performed first.

After the operation the patient is transferred to an oxygen tent or preferably an oxygen room and ordinary supportive treatment is employed. The packing is removed after four or five days. need not be re-inserted. The patient remains in bed for from eight to ten days.

Although they operated on all cases during the second and third periods reviewed, the authors realise that in many of them recovery would have resulted without operation. However upder cer tain circumstances, waiting proves disastrous. They regard operation as advisable for

1. Sucking wounds. In these the mechanical disturbance of the mediastinum and lung are cor rected by suture of the hung to the pleura, and even

contaminated wounds are rendered harmless

2 Wounds close to the border of the sternum where the heart and mammary vessels may be insured.

3 Cases in which the lung presents in the wound. 4. Cases in which the disphragm may be injured.

Cases of tense pneumothorax.

6 Cases of marked subcutaneous emphysema In other cases expectant treatment is employed. A roentgen ray examination is made every six or eight hours for two days and operation is performed if fluid or pneumothorax is found to be increasing.

G PAUL LAROOUR, M D

Ferrari R. C. and Piffero T: Intercostal Dia phragmatic Hernia (Hernia intercostal o de la periferia del diafragma). Bol inst de clin quir 1932 viii, 241

The authors report a case of intercostal diaphrag matic hernia give a résumé of previously reported cases with a bibliography and discuss briefly the etiology, diagnosis and treatment. The first good description of intercostal diaphragmatic hernia was given by Alquier in 1905. To date eighteen cases have been recorded. The earliest case was reported ia 1819.

The authors patient was a man aged thirty-one years, who four years previously had received a superficial wound in the ninth left intercostal space in the posterior axillary line. Six months later a soft reducible tumor appeared below the scar and slowly increased to the size of half an orange. Fluoroscopic examination showed the costodia

phragmatic angle to be obliterated. The hernia lay below the pulmonary area and corresponded to the upper part of the renal field. The colon was normal. At operation the sac contents were found to be perirenal fat. The presence of perirenal fat in the sac has not been reported previously. The authors classify the condition in their case as an extraperitonesi or lumbar variety of intercostal diaphrag matic berns

The cause of these hernise is trauma to the lower part of the thorax around the costal margin with rupture of the diaphragm and the soft tissues of the intercostal spaces. Only bernue produced by gradual distention of the soft parts are of the true intercostal diaphragmatic type. The cases in which protrusion of an organ immediately follows an injury are simply thoracico-abdominal wounds with evisceration. The most frequent site of intercostal diaphragmatic her nize is the anterior part of the lower left intercostal spaces. In only one reported case was the hernia on the right side. The hermal ring is formed by the intercostal muscles. In the ten cases in which an operation was performed the contents of the sac were intestine and omentum. In one case each the suc contained the stomach and the lung

The symptoms are of two varieties local disturbances and those related to the incarcerated organ. The differential diagnosis is not difficult in typical cases but a differentiation from pneumocele or be tween an irreducible hernia and a tumor of the soft parts of the thorax may be necessary

MARY ELIZABETH MORSE M D

SURGERY OF THE ARDOMEN

ABDOMINAL WALL AND PERITONEUM

Casella, D.: Acuta Peritonitia Scen in a Military Hospital (Le peritoniti acute nella pratica ospe daurra militare) Cliu, chir. on vill. 420.

The peritanitis secondary to eastroduodenal per foration observed in military practice is somewhat different from that observed in civil practice. The nationts are seen most frequently after considerable time has clapsed since the perforation and usually have an extensive peritonitis. As a rule there is a history of exeruciating abdominal pain coming on suddenly and recurring with increasing intensity This pain may radiate to either shoulder. It finally localizes in the right or the left hypochondrium or the engastrium. There it remains characteristically localized for a few hours, but at the end of that time it becomes diffuse as the result of extension of the peritoneal irritation to the dependent areas. There is then a board-like rigidity which persists until a diffuse advanced general peritonitis develops. Liver duliness may be decreased by the presence of free gas in the peritonnal cavity. This gas can be dif-ferentiated from intestinal meteorism because it disappears with a change in the nations a position

disappears with a change in the patient's position.

In the determination of the prognosis an early diagnosis establishing the causative site of acute

peritonitis is of major importance.

When the ulter is too large to be incised and when obstruction results from closure of the perfora-

when obstruction results from closure of the perforation, a complementary gastro-enterostomy abould be done.

In the cases reviewed, 55 per cent of the total number of patients operated upon survived, but of the patients who were operated upon early 85 per

cent recovered Perforated typhold ulcers were relatively rare in the cases reviewed as typhold itself has been practically eliminated by vaccination. It is a serious complication because it occurs in toxic patients at the beliefit of the infectious process when the pervous and cardiac depression is most marked. In cases of large, multiple, or confluent perforations which at times may involve segments of the entire bowel the prognosis is worse. The patient awakens with acute nain in the lower abdomen. In go per cent of the cases this pain is in the right lower quadrant. There is a andden drop in the temperature to as low as 35 degrees C. and the pulse becomes rapid and thready These changes are followed by cold sweats, meteor ism muscular defense, facies abdominalis, astbenia, cyanosis, and hiccough.

A differential diagnosis between internal hemorthage and perforation is of little importance as in both conditions immediate surgical intervention is indicated. The poor prognosis may be modified by immediate surgery Of 9 patients who were operated upon with a mortality of 66 per cert, the y who avvived were operated upon one, four and twelve hours respectively after the perforation whereas those who did new operated upon after an interval of twenty-four hours. Operation conducted of closure of the perforation with minimal traums.

of the perforation with intalmal traums.

In 80 per cent of the cases reviewed the perinolitic followed acute appendicitle. In 0.00 22 to the series seen simple catarnal appendicits with practically no performal involvement. Of over 187 cases complicated by acute perinolitis, death resulted in 14 and cure in 173 (92 5 per cent). In all of these cases operation was performed regardless of the duration of the disease of its course. Harmostasis is essential. The base of the appendix should be faverted and borried without drainings as this limits the possibility of subsequent obstructions and lowering of the perinolity of subsequent obstructions and lowering of the perinolity of subsequent obstructions and lowering of the perinolity of subsequent obstructions and lowering of the perinolity.

The treatment of any type of gastro-Intestinal perforation whether secondary to gastro-Intestinal perforation whether secondary to gastro-Intestinal ulceration, typhoid fever or penetrating abdominal wounds, is immediate laparation with a careful search for the causative lesion and its immediate chosme. The postoperative proposals is directly related to the time which elapsed between the certifical issuit and the operationseed.

SAMUEL J FOCKLOOK, M.D.

GASTRO-INTESTINAL TRACT

Gavazzeni, A.: Examination of the Folds of Mocous Membrane in Carcinoma of the Stomach [Lesame delle plichs della mocosa nel carcinoma dello stomaco: Raissi sud 1031 zr. 180.

One of the most valuable contributions of roest suppliery in the last decade is accurate information regarding the normal and pathological relief of the gastric mucoss. The author reviews the development of the method and describes the various techniques employed to obtain this information. There are two chief methods. In one, a small amount of contrast medium is introduced and the stomach then distended In the other the examination is made with the walls collapsed Gavarreni prefers to use a very small amount of barfum sulphate, less than that generally employed, which shows the mucous mem brane in more minute detail. Finely powdered barium sulphate suspended in an equal amount of water is given to the patient in the standing position and distributed over the walls of the stomach by manual manipulation. With modern apparatus, which permits rapid transition from fineroscopy to rosnigenography roentgenograms of the most char acteristic fundings can be made. The standing posttion is best for examination of the body of the stom ach and the horizontal position for examination of the antrum and cardia. After the examination in both positions has been completed, the stomach is filled with a Rieder meal and the usual examination is made.

While the new method gives much information in regard to detail, the old method cannot be dispensed with and the problem of early diagnosis of gastric

cancer is by no means solved

The normal and pathological findings made with the new method of examining the folds of mucous membrane are shown by roentgenograms and discussed. Great care must be exercised in Interpreting the roentgenograms as the picture of the mucous membrane folds is influenced by various factors such as residues of food or mucus foreign bodies in the stomach, and defects due to pressure by organs or tumors outside the stomach.

or tumors outside the stomach.
Sudden interruption of the folds is considered an
early sign of carcinoma, but may occur also in be
nign processes and may be simulated by the presence
of gas or residues of food and by imperfect distribution of the contrast medium over the stomach wall.
The helo surrounding an ulcer may simulate a tu
mor Large, rigid digitiorm folds are a valuable
indication of the presence of cancer, but even these
are not always pathognomonic. If their form can be
changed by palpation they are not conclusive. As
the neoplastic infiltration may extend beyond the
folds, the latter do not definitely show the extent of
the tumor Similar findings may be made also in
cases of syphilis and tuberculosis of the stomach.
A normal mucous membrane relief quite definitely
excludes the presence of cancer

AUDREY GOES MORGAN M.D.

Cage, I M. Ochaner A. and Cutting, R. A. The Effect of insulin and Dextrose on the Normal and the Obstructed Intestine Arch Surg., 1933 xxvi, 688

In order to determine the effects on intestinal activity of the intravenous administration of dex trose either alone or combined with insulin the auth ors made ninety two observations on thirty dogs. Twenty two of the studies were made on normal dogs, thirteen on dogs with twenty four hour obstruction twenty two on dogs with forty-eight hour obstruction, twenty five on dogs with seventy two-hour obstruction, and ten on dogs with ninety six hour obstruction.

In both the normal animals and those with obstruction the intravenous administration of 10 per cent destroes invariably produced a decrease in intestinal activity. There was apparently a less marked decrease in the activity of the intestine obstructed for longer than twenty four hours than in that of the normal inteatine or that of the intestine obstructed for twenty four hours. In the normal intestine and the intestine obstructed for twenty four bours. In the normal intestine and the intestine obstructed for twenty four bours the average decrease in intestinal tone was 2 and 38 mm. respectively whereas in the

intestine obstructed for forty-eight hours and the intestine obstructed for seventy two hours it was as and io mm, respectively

Insuln alone produced an increase in intestinal activity in both the normal and the observations, the average increases in tone and amplitude being 7 2

and 3.8 mm. respectively

Destrose and insulin combined resulted in an increase in intestinal activity in 44.5 per cent and no change in 55.4 per cent of the experiments. Insulin preceded by dextrose produced an increase in in testinal activity in 70 per cent and no change in 30 per cent the average increase in tone and am plitude being 14.3 and 3 mm. respectively Destrose solution preceded by insulin produced an increase in intestinal activity in 70 per cent of the experiments with an average increase in tone and amplitude of 27 and 8.5 mm. respectively. In 10 per cent there was no change and in 10.8 per cent there was a decrease in activity and in 10.8 per cent there was a decrease in activity.

The experimental results indicate that dextrose solution exerts an inhibiting effect on both the nor mai and the obstructed intestine which can be largely obviated by the use of insulin They suggest that, climcally dextrose alone should be used cautiously and that as a rule dextrose should be combined with insulin in order to decrease its inhibit

ing effect on the intestine.

McIver M A.: Acute Intestinal Obstruction Fifth Installment Am J Surg 1933 xx 475

In simple intestinal obstruction the couls of in testine above the obstruction are dilated, whereas those below it are collapsed. In the later stages the blood vessels show evidence of hypersemia and con gestion. There is a cyanotic tinge At times the intestinal wall may become almost as thin as paper Occasionally ulcerations are caused by inter-ference with the circulation in the bowel. These are most extreme in the cocum Perforation may result. The contents of the bowel are thin watery and foul smelling. The gastric and duodenal contents may contain a large number of nucro-organ isms. In the presence of strangulation there is compression of the veins which interferes with the venous return. The lumen of the intestine becomes distended with bloody fluid exudate. If the distention is not relieved, gangrene occurs in association with complete loss of intestinal tone. In the early stages of simple obstruction there is usually an in crease in the amount of free perstonesi fluid. When strangulation has occurred, this fluid is apt to be blood tinged. Peritonitis may result from perfora tion Peritonitis is especially apt to occur in pa tients who have had the bowel opened by operation or otherwise. Of 123 autopsies performed in cases of intestinal obstruction at the Massachusetts General Hospital general peritonitis was recorded as the principal or contributory cause of death in 66 A pneumonic process may occur either as a terminal process or as the result of the aspiration of septic vomitus. Of the 125 cases reviewed, serious pul monary complications developed in 20.

There may be little or no change in the temperature. The pulse rate may be increased during the paroxymus of pain and in usually increased as the condition progresses. As a rule the blood pressure above little change, but in the terminal stages it decreases progressively. The leceocyte count usually above a slight increase, especially if strangetistic description of the least of the contraction of the least of the contraction of the stirbluted to damage to the kidneys, and by others to functional impairment.

Of great Importance in intentinal obstruction are a decrease in the blood chirdren, an increase in the sizali reserve, and an increase in the non-protein intropen of the blood together with debytration. The author attributes the dehydration to loss of the electrolytes, especially sodium and chirdren, which are secreted into the upper intentinal tract and can not be shooted because of the high intential obstruction or are lost to the body in the venultus. If this theory is correct, the dehydration cannot be

combated by the administration of water alone. The reduction of the volume of the blood plasma results in an increase in the concentration of the plasma protein, the red cell count, and the hematocrit reading. This in turn results in an increase in the viscouty of the blood. Because in high intestinal obstruction there is a loss not only of gestric, but also of pancreatic and biliary secretion, the acid and base radicals being lost approximately proportionately there may be little change in the car bon-dioxide combining power of the plasma. If only the gastric secretion is lost there is a tendency toward the development of alkaloris, whereas if the biliary and pancreatic secretions are lost, there is a tendency toward the development of acidosis. In high intestinal obstruction in which the loss of the chloride ion does not exceed that of the base fon (both being lost proportionately) the carbondioxide combining power of the plasma may be altered even though the loss of chloride loss and base ions may have been exceedive. This is im portant because one should not regard the plasma chloride concentration as an index of the degree of dehydration. An increase in the non-protein nitrogen content of the blood is even more constant than a decrease in the blood chlorides.

To explain the pain in intestinal obstruction, a number of theories have been advanced. The author agrees with Head, Ross, Henri, and Morley that there are probably two types of pain from the abdominal viscers, one arising from the involved organ, which is dell, boring, and wearing, and the pain at the pain the

between the umbilicus and the ensiform carillage, whereas sensation from the rest of the intestine tends to be referred to the region of the umbilicus or across the abdomen above this point. Pain from the large intestine is usually referred across the abdomen and below the umbilicus

Vomiting may be a refer doe to attinuistion of the vomiting center and subsequently the result of peritonitis. In more advanced case, repurpitation from the stomach may be responsible for it. Relief of the intra intential pressure by regurgitation beckward of meetinal contents is benefacial and it is possible that the results obtained by a jejusostomy are produced by iscomplete regurgitation into the terminal portion of the duodenum caused by archaetion at the ligament of Treits. The distention of the intentine is due to an increased amount of duild derived from the stomach, pancreas, liver and intentine. As a result of the obstruction, the servtion of fluid is increased and absorption is retarded.

The gas present in the intestine is due partly to decomposition of the intestinal contents and varies considerably with the type of material present in the intestines at the time of the obstruction. Another source of gas is a diffusion of blood and gases into the intestinal lumen. A third source is swallowed air. The swallowing of air is especially apt to occur postoperstively. Gas is emptied from the intestine by being forced distally by peristals and by being absorbed from the lumen. In the presence of them it cannot pass peripherally and because of the distention caused by accumulation of gas occurring more rapidly than absorption, the circulation of the bowel is interrupted and thereby the absorption of gas is still further diminished. ALTON OCHROCEL M D

> LIVER, GALL BLADDER, PANCREAS, AND SPLEEN

Tirler L. Clavel, C. and Chabannes, H.: The Gravity of Interventions on the Male Billiary Tract (Gravité des interventions se les voies billiares dans le sece macchin). Arch francebelgu de cher 1012, spuni van.

The authors report that in 149 surgical operations performed in the period from 1914 to 1916 for disease of the billary tract in women the mortality was 13,45 per cent, whereas in 11 definite operations performed during the same period for billary disease in men the mortality was 30 56 per cent. They report the 11 curse of billary disease in men the detail.

In a review of the literature they found that Cotte
had a mortality of 18 per cent in his cases of females
and 19 per cent in the cases of males. The corresmonthing mortalities in Villard's cases were 93 and 36
per cent, and those in Bostlin's cases, 97 st and
17.43 per cent. In 10.85, Davis reported a mortality
of 3.09 per cent in the cases of females and 7 1.4 per
cent in the cases of males. The average mortality is
therefore 17 20 per cent in the cases of females and
18 28 per cent in the cases of males.

From a study of the statistics of various surgeons it is evident that the most frequent causes of death are peritonits and pulmonary complications. Peri tonitis was the cause of 35 per cent of the deaths of males and 23 5 per cent of those of females

Harmorrhage also seems to be more common in males than females. Other causes of death seem to occur with equal frequency in males and females.

In the male the bile pessages are situated deeper than in the female. Therefore they are more difficult to exteriorize and operation is technically more difficult

As there is no test by which it is possible to determine the functional capacity of the liver with certainty it is impossible to state that hepatic in sufficiency is more frequent and severe in the male than in the female. The Maillard coefficient is slightly higher in the male but by many it is considered a mediore enterion.

The thorax of the male is more rigid than that of the female because of the more powerful musculature and the more complete ossification of the ribs and especially the costal cartiflages in the male. The spinal column of the male is also more rigid than that of the female. In the male, the anteroposterior diameter is 20.82 cm. and in the female 17 32

In the female the junction of the cystic and hepatic ducts lies 7 5 cm. from the abdominal wall. In the male the distance is 11 2 cm. The greater the anteroposterior diameter the farther the biliary passages will be found from the abdominal wall. In the male the liver is more solidly fixed than in the female. Alcoholism which plays an important part in hepatic insufficiency has been more common among males than females, at least up to the last few years. It may cause also a delay in the congulation of the blood. In cases of alcoholism, angesthetiza tion is more dangerous as a greater quantity of anesthetic is required and this increases the burden on the liver Females react more favorably to harmorrhage and resist operative shock better than males. Men are more tolerant of pain and do not come to the surgeon until a much later stage of their illness when numerous adhesions have formed. Men operated upon for biliary conditions are usually older than women treated for the same condition and the severity of reactions to operation increases with age.

In order to combat the greater mortality in the male operation should be limited to the minimal procedure (cholecystostomy) that will suffice or if exploration is imperative the incision should be that affording the wideat exposure (Kehr Rio Branco Mavo) Traction on the richly innervated pedicles should be avoided to prevent respiratory and cardiac reflexes. Peritonitis should be combated by more efficient drainage. When there is plastic in sufficiency of the peritoneum subhepatic per tonisation should be done if necessary Special care should be taken to obliterate with gause omentum or some other substance the right side of the sub-

hepatic region which communicates with the greater peritoneal cavity by the parietocolic groove. A more careful pre-operative study of the patient should be made 'The patient's general resistance and hepatic function should be determined from the bile index of the plasms, the findings of the rose bengal and bromsulphthalein tests the Maillard Lanzenberg coefficient, the bleeding time the congulation time Patients in and the degree of induced glycemia whom the chromagogue and biliary functions are both impaired before operation have less resistance to operation than those in whom only one of these functions is affected. Medical treatment should be given for as long a time as possible before operation. A detoxicating lactovegetarian diet is advisable. If the coagulation and bleeding times are increased, 3 ampoules of hemostyl may be administered daily for six or seven days and 4 gm of calcium chloride every other day Lambret gives a blood transfusion of from 200 to 300 c.cm. the night before the opera tion. He recommends also biliary opotherapy in large doses for fifteen days preceding the operation Dupuy and Frenelle believe that the best prepara tion of the patient is the pre-operative injection of I liter of serum mixed with from 100 to 200 c cm of blood. Ether is the least toxic of the general ances-The ideal amesthesia is local amesthesia One of the most important means of reducing the mortality is of course early diagnosis.

LOTTH S MOORE

Graham R. R., and Cannell D: Accidental Ligation of the Hepatic Artery Report of One Case with a Review of the Cases in the Literature Brit J Surg. 1933 xx, 560

To the twenty-seven cases of accidental ligation of the hepatic artery recorded in the literature which they summarise the authors add a case of their own. Their case was that of a man forty nine years of age who had an extensive carcinoma of the stomach During resection of the stomach the hepa tic artery which was involved in an inflammatory mass was sectioned and ligated. Careful chemical studies of the blood falled to suggest any serious consequences. The patient had an uneventful con valescence for three days but on the fourth day signs and symptoms of pneumonts appeared and on the seventh day death occurred. Autopsy revealed blisteral pneumonia a small quantity of peritoneal exudate and fibrinous plaques and an area of early necrosis in the left lobe of the liver. The only remaining sources of arterial blood for the liver were anastomoses of the phrenic arteries in the diaphragm and possibly a small anastomosus of the left gastric artery near the ocsophagus and the left lobe of the liver The amount of liver necrosis was not sufficient to have caused death. The authors believe that if the complications had not developed the patient would have survived the accidental ligation of the hepatic artery

Arterial blood is necessary for the maintenance of healthy liver tissue but there is evidence to show that the anastomoses between the phrenic arteries and the bepatic artery are sufficient to maintain circulation in the liver when the hepatic artery is shut off Of the twenty seven cases of hepatic artery is figure recorded in the literature, death cocurred in filter. Most of the deaths were due to liver necrosts. However, it is evident that liquid to the contract of necrosis.

Synuty R. Mexicars. M.D.

Pater D H. and Whithy L. E. H.: The Paths of Gall-Bladder Infection. An Experimental Study Ben J Surg 1933 xx, 580.

The bacteria most commonly found in cholecystitis in man are intestinal bacteria. The routes by which they enter the gall bladder are not known with certainty.

Bacillus welchi injected into the portal vrins of eventeen rubbits was recovered from cultures made of the gall-bladder wall thirty minutes later in every mustance. Only two of seventeen bile specimens were positive after thirty minutes. In all of twenty nine experiments the liver yielded positive cultures after forty-eight boons, and in eight out of nine it remained positive at the end of a week. Coltures of the systemic blood were likewise positive for twenty four bours, but after forty-eight bours only three of fifteen were positive, and by the end of a week only one out of eight was positive.

When the inoculation was made into the systemic circulation the results were approximately the same. Even when the inoculated solutions were greatly diluted, the systemic circulation gave positive cultures five minutes after intraportal injection, showing that the liver was not an efficient filter dilutions were used the gall bladder remained sterile even though the systemic disculstion was positive. When stronger solutions were used, the gall-bladder wall was constantly infected, but the bile remained sterile. The authors therefore conclude that the cystic artery is the route of gall-bladder infection. They state that the focus of the infection is far more likely to be the intestinal tract than a distant focus such as the teeth. Organisms lodge in the gall bladder wall, not because of elective localization but because of a decrease of local resistance. This has been demonstrated by others following ligation of the critic or common duct.

The lymphatics from the liver to the gall bladder are not the route of injection. If they were, the gall bladder would be as constantly infected as the liver flowerer the authors found in their experiments that at the end of a week following intraportal incordations the gall bladder rarely contained or ganisms whereas the kidneys were still usually infected and the liver was almost invariably infected. Moreover, following the injection of Irodia ink into the portal system or directly into the liver close to the bed of the gall bladder said, even when the latter found in the gall-bladder said, even when the latter

was artificially inflamed. When there from tranplantable carcinomatous tumors was injected, it spread by direct lymphatic extension, but although the growths developed in the liver close to the gall biadder once of them ever penetrated into the gall-biadder wall. Descending and ascending bile-duct infections

were rare. STANLEY IL MENTER, M.D.

Bucalossi P : Experimental Researches on Cholecystectomy (Rictrobe sperimentali salla colechtectomia) Cl. chr. 933, lx, 137

The purpose of the author research was to study anew the controversial problem of the authorizate and functional changes following cholecystictomy in particular the formation of a new storage reservoir for bile the prevention of diverticulum formation by the avoidance of traums and by refunctionation by the avoidance of traums and by refunctionation of the tump and the histology of the billiary tract and the bile flow into the duodenum after cholecystectomy. Boxchosis gives a critical discussion of the literature on these points and reports in detail his experiments on sixtem does.

He found that aimple choice-ynectomy is followed by the formation in the stump of the cyrite duct, of a diverticulum which acts as a bile reservoir. This distation is the result of lacily technique and may be avoided by removing the cyrite duct completely and them folding the atump on itself and re-inforcing it with omentum. If this motivated is followed in the state of the complete of the state of the cyrite duct is particularly important because the bile current normally directed toward it currents its pressure at this point of least resistance.

Histologically permanent alterations of the mucross of this bild dorts are not a necessary consequence of cholecystectomy. Adde from transient necrosis of the epithelium at the site of incision, the walls of the bepatic and common ducts are found entirely normal. The fibromucular layer appearently does not undergo compensatory thickening. The structure of the diverticulum resembles that of the hepatic ducts much more than that of the gill bladder.

The question of functional restoration of the larger bile passages after tobeleysystectury has not been studied much experimentally and reports are condicting. Bucalossi found almost complete functional compensation. The discharge of bile into the duodenum, both in interval, of digastics and following laduced climination, is closely comparable to that occurring under normal conditions. The surretay dusts undergo changes, particularly dilutation which stays them to compensate for the storage function of the gall bladder. The bills in these dust is so modified during pauses in climination as to rander it similar in color and viscosity to gall-bladder bills.

The author's experiments prove that the described technique constitutes a setisfactory method

of eliminating the gall bladder and that after the operation the bilizry passages undergo anatomical and physiological changes which give sufficient functional compensation.

The article has illustrations and a bibliography
MARY EXIZABETH MOSSE, M D

Graham, E. A. and Womack, N. A.: The Application of Surgery to the Hypoglycemic State Due to Islet Tumors of the Pancress and to Other Conditions. Surf., Grace & Obs. 1933 1vi, 728

The author reports on six cases of proved tumor of the later tissue of the pancress which were studied at the Barnes Hospital St. Louis, during the last few years. Three of the cases were operated upon with success. In the three others operation was not performed but the tumors were found at autopay in all six cases the factor of chief interest was the resultation of the super in the blood.

According to present conceptions, sugar equilibrium is maintained by the counterplay under nervous control of a number of factors of which the secretions of several glands are most important. Insulin from the islands of Langerhams tends to diminish the amount of blood sugar whereas the secretions of the medulia of the adrenal gland the anterior lobe of the pituitary gland, and the thyrod tend to increase it. Despite this antagonistic action, the amount of sugar in the blood of normal individuals in the fasting state that is before breakfast, does not vary greatly but is usually found to about 0 to per cent, or about 100 mgm. per 100 ccm. of blood.

A syndrome of hypoglyczemia has become recognized. The clinical manifestations of this condition include a feeling of malaise, lassitude, and inability to perform mental or physical work. These are often accompanied by trembling and aweating The face may be alternately pale and flushed. There may be a fall in the temperature. With these symptoms there is usually a sensation of hunger which may be extreme and even agonizing The sensation of severe hunger is often accompanied by yawning and mental confusion. The pulse is usually accelerated. Some of the most important and striking symptoms are related to the nervous system. Mental confusion resembling epileptic convulsions has been noted so often that the first diagnosis made in several of the reported cases of island tumors was epilepsy most cases, however the crises are different from those of true epilepsy of the grand mal type. Con vulsions limited to one side of the body and even to the face or the extremities have been recorded. Amnesia is another common symptom. The patients seldom remember what they have done or said dur ing the periods of mental and psychic abnormality In some cases even localizing signs of disorder of the central nervous system such as a Babinski sign and disturbances of the pupils, have been noted. In the more severe cases coma frequently occurs.

In many cases the neurological or psychiatric aspects of the condition are so prominent that many

of the patients with chronic hypoglycemia have been referred primarily to neurologists and psychi atrists for treatment. In general the most severe manifestations are associated with the lowest blood sugar When the blood sugar diminishes to 50 mgm. or less per 100 c.cm. the effects are likely to be severe. In 1924 Harris reported the cases of twelve patients with blood-sugar values of less than 70 mgm. nearly all of whom presented some of the symptoms described. In 1925 Onas reported a case with epileptiform seizures. In 1927 Wilder Alian, Power and Robertson reported a case showing a definite relationship between the symptoms and the level of the blood sugar At autopsy in this case a carcinoma of the lalets of Langerhams with liver metastases was found. In 1928 Thalhimer and Murphy reported a similar case in which autopay disclosed a tumor of the pancress.

The first successful operative removal of a pan creatic tumor producing symptoms and signs of hypoglycemia was done in a case reported in 1929 by Howland Campbell, Maltby and Robinson. The patient had an encapsulated tumor in the body of the pancreas which was easily removed. After the operation the symptoms were completely relieved and the blood sugar was restored to the normal level. From the findings of microscopic examination the tumor was diagnosed as a carcinoma. In 1936, Warren reported twenty tumors of the pancress found in autopay material, but none of the cases was studied clinically Lloyd, in 1929 reported a case of adenome of the pancreas without hypoglyczemia but associated with a pituitary and a parathyroid tumor Recently Smith and Seibel reported four cases in which autopsy disclosed an adenoma of the pan creas. In one of them the tumor was definitely associated with hyporlycemia. In another there were symptoms suggestive of hypoglycemis. In a third there was no clinical evidence of hypoglyczemia but the amount of blood sugar was not determined. In the fourth there was severe diabetes instead of hypoglycemia. In 1928 MacClenahan and Norris reported a case of adenoma associated with severe signs and symptoms of hypoglycemia in a man forty two years old. At autopsy, the tumor was found to be 1 6 cm. in diameter and distinctly encapsulated. There were no mitotic figures, and most of the cells resembled beta cells of normal islands. Neighbor ing pancreatic tissue showed some hypertrophied lalancie.

At the Barnes Hospital, St. Louis, three patients have been operated upon successfully since October 1930 for the removal of active tumors of sict thase associated with marked evidence of hypoglycemia, in the first case there was a well-encapsulated adnounce of the pancreas. The postoperative course was uneventful, and recovery was complete. In the second case the tumor was not sharply demarcated and the resection of a margin of normal pancreas about it was necessary. The bed of the tumor was closed and harmorrhage from the enlarged vessels was prevented by a pursestring suture. Convalence on was

stormy because of a pulmonary infection, but recovery was complete. The presence of normal pancreatic times in the tumor and the absence of a definite capsule suggested cardnoma rather than adenoma. In the third case there were two tumors which required two operations before a successful result was obtained. At the first operation an adenoma was easily shelled out. At the second operation, per formed two months later because the first one falled to effect a cure, a mass could be felt when the nancress was held between the index fineer and the thumb. This was resected with a portion of the tail in which it was located. Recovery was uneventful. and the symptoms were relieved completely

To date, there have been seven cases of removal of tumors of the pancreas for hypoglycemia-the case reported by Howland in 1929, the three cases treated at the Barnes Hospital, St. Louis, one case treated at the Peter Bent Brigham Homital, Boston, and mentioned by Cushing but not published, one case reported by Smith of Wisconsin, and one case reported by Ross and Tomasch of the Cleveland City Horoital. In none of these cases has death occurred.

Because of the absence of mortality and the uniformly dramatic nature of the recoveries, the authors conclude that prompt surgical exploration should be done in cases of hypoglycemia of unex

plained origin.

The diagnosis of the presence of an islet tumor is by no means casy Recognition of a state of chronic hypoglycemia, even when it is associated with characteristic symptoms, is not sufficient in itself for a diagnosis of lalet tumor as other conditions have been found to be amodated with the hypoglycamic state. In 1931 Phillips reported a case with symptoms of severe hypoglycamia and loss of consciousness. One determination of the blood sugar in this case was as low as ac Autopay disclosed in add. tion to a subscute glomerular nephritis a marked hypertrophy of the islands of Langerbans (from 242 to 328 microns as compared with the normal of from 146 to 157 microns, as given by MacCallum)

It is well known that disturbances of the adrenal glands may be associated with hypoglycemia. There are now on record many observations showing that the blood sugar is lowered in Addison's disease. and Anderson has reported a case in which there were pronounced symptoms of hypoglycemia amo-

tiated with a carcinoma of one adrenal gland Hypoglycemia is sometimes associated also with certain tumors of the pituitary gland, especially those arising in the chromophobe cells which cause adipose-renital symptoms of hypocituitarism. The literature on the association of pitultary lexions with hypoglyczemia has been extensively reviewed by Sigwald.

Various diseases of the liver such as primary car cinoma neo-amphenamin hepatitis, and phosphorus poisoning, and such conditions as scleroderms are known to be associated with hypoglycemia.

Children sometimes present a clinical picture closely resembling that produced by an islet tumor

which disappears spontaneously

It is therefore apparent that the diagnosis of spon tancous hyporlycumia does not in itself establish the diagnosis of blet tumor. Moreover it is not always easy for the surgeon to recognize an islet tumor If, for example, the neonlasm is embedded in the substance of the pancress, its recognition may be imposaible by any justifiable means.

In conclusion the authors say that when an acc noma is found in a patient with hypoglycemia the chances are very great that its removal will be fol-

lowed by marked improvement. MARKEL E. LACROSCHUCK M.D.

GYNECOLOGY

UTERUS

Julien M G: Ambulatory Treatment of Retroposition of the Uterus (Traitement ambulatore des rétropositions uténnes) Complex rendex Secfrenç de grate., 1933 ill 30

Retroposition of the uterus rarely causes symptoms which necessitate or justify surgical intervention. The author describes a regime for the ambut latory management of the condition. He states that in seventy-eight cases in which it was used over a period of four years it resulted in cure or improvement in 82 per cent. In three cases of secondary sterility at was followed by pregnancy. It requires several months and demands unlimited patience and cooperation between physician and patient. Briefly it is as follows.

t Medical treatment This includes (a) exercises carried out by the patient several times daily in the lithotomy or knee-chest position and consisting chiefly of voluntary contractions of the perineal muscles (b) the administration of endocrine products if indicated and (3) the administration of lodides and hamamelis to stimulate the venous circulation.

3 Gynecological procedures. These include disinfection of the genital tract duathermy electrocoagulation of the hypertrophiled cervix and pelvic massage.

Disinfection of the genital tract is accomplished by the administration of stock vaccines and by mechanical and chemical cleaning. It requires several weeks, and is continued until tenderness and signs of infection disappear.

Diathermy by the application of sacral supra public and vacinal electrodes is given three times a week until about fifteen treatments have been administered.

Electrocoagulation of the hypertrophied cervix is done to diminish the caliber of the venous sinuses, condense the tissues and shrink hypertrophied and infected glands. The result is said to be involution of the uteru

Pelvic massage is carried out systematically after the cervix has healed from the effects of electrocoagulation and is continued until the uterus is continued until the uterus is reported by the electroduction and the electronic pelvic pelvic adjustions responsible for residual to massage after the described preluminary treatments have been carried out.

This mode of treatment is indicated in all cases of retroversion in which close cooperation between physician and patient can be assured. It is contra indicated in all cases of recent acute or subacute pelvic inflammatory disease.

HAROLD C. MACK M.D.

Serdukoff M G: Transplantation of the Endometrium Method and Results Obtained in Amenorrhess, Sterility and Fremature Sensocence (Transplantation de l'endomètre Méthode appliquée et résultat obtenus dans l'aménorrhée la stérilité et la sénescence prématurée) Gyake si shift 1033 Xxvil 33

It is believed by the majority of research workers and clinicians that the endometrium has an endocrine function and that its specific substances will soon be discovered.

The resistance and vitality of the endometrium make its transplantation possible but transplanted endometrium can function only in the presence of normal ovaries. The author has transplanted the endometrium from one woman to another in four cases. The steps in his technique are as follows:

1 After a careful pelvic examination the abdomen is opened and the uterus incised in the median like a book

The scar tissue in the uterine cavity is very carefully removed and the cervical canal then probed with a uterine sound. Sometimes the scar tissue obliterates the cervix completely. If the cervical canal is obstructed, the incason in the uterus is enlarged down to the uterovesical fold. As a rule the external os can then be dilated easily.

3 The endometrium freshly removed from another woman of the same blood group and with a negative Wassermann reaction is implanted in the uterine wall by suturing the pieces of endometrium to the muscle with catgut or grafting them into in cidons in the muscle

4 The uterus is then closed in two layers.

5 Two weeks after the operation the uterine exvity is explored after dilatation of the cervar with Hegar bougies Nos. 6 to 8 Sometimes a little dark blood appears. The dilatation is repeated at least once a month during the next four months.

The first case reported by the author was that of a woman thirty two years of age who had metritis dissecans. Examination revealed atrophy of the uterus with obliteration of the uterus eavity. The cervical os could not be found. Ovarian function was normal. The patient had suffered for five years from headaches nose bleeding and amenorrhoes Transplantation of endometrium was done in 1929 Since then menstrustion has occurred normally

The second case was that of a woman twenty three years old who entered the clinic in April, 1930. The last menstrual period had occurred two years previously. At that time the patient went through a normal pregnancy and normal labor at full term. After deliver, she developed a puerperal infection which necessitated curettage. Since then she had

stormy because of a pulmonary infection, but recovery was complete. The presence of normal parcresite tissue in the tumor and the absence of a definite capsule suggested carefrona rather than adenous. In the third case there were two tumon which required two operations before a successful crue was obtained. At the first operation an adenous we seasily abelied out. At the second operation, per we seasily abelied out. At the second operation, per formed two months later because the first one falled to effect a cure, a mass could be felt when the panceas was held between the index finger and the thumb. This was resected with a portion of the tail mythel it was located. Recovery was uncerefull,

and the symptoms were relieved completely. To date, there have been seven cases of removal of tumors of the pancreas for hypotylocuma—the case reported by Howland in 1929, the three cases treated at the Barnes Hospital St. Louis, one case treated at the Peter Bent Brigham Hospital Boston, and mentioned by Cushing, but not published one case reported by Smith of Wisconsia, and one case reported by Ross and Tomasch of the Cleveland City Hospital. In none of these cases has death or

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In conclusion the authors say that when an adenoma is found in a patient with hypoglycemia the chances are very great that its removal will be fol-

lowed by marked improvement.

MARGEL E. LEWINGHAM, M.D.

had complete amenorations. The cervit and uterine body were found to be hard and smaller than normal. The external os of the cervit was totally obliterated. The sound could not be passed even with force. The left owney was cystic and prolapsed. The Serdchoff operation was performed. The doors of the endometrum was a protoned. The doors of the endometrum was a protoned of the doors of the terminal was common operation was decharged sevential. When the patient was decharged sevential was somewhat large and hard and the uterine carrity measured 6 can. Following the introduction of a sound into the uterns a sight amount of dark

The third case was that of a woman thirty two years of age who had had ammorabras ever after accreting performed when she was twenty, five years old. Examination revealed obliteration of the corvical canal and uterine cavity perhapingists on the left side and a retroverted, small, and hard uterns. On examination eleven days after the Serdukoff operation the uterus was found antefficied, morable, and on normal size and consistency.

In the fourth case. Serdukoff transplanted endometrium and an overy to a fifty-six year-old woman suffering from memorancel symptoms and nev chasthenia. The donor was a woman twenty five years old who was operated upon for bleeding caused by adenomyouls. The patient made an uneventful recovery On September 1 1912 about six months after the first operation, an overlan transplantation into the abdominal wall was performed. The menopsumal symptoms then cessed entirely On pelvic examination the uterus was found ante flexed and of normal size and consistency uterine cavity measured 7 cm. During the dilate tion of the cervix a few drops of dark blood were found in the uterine cavity Menstruction has not re-anneared as yet but Serdukoff believes it can be expected as soon as the organism has gained its endocrine balance

Serdukoff draws the following conclusions
The endometrium has not only a secretory

refivity but also an endocrine function.

2 Its function is related to menstruation, the function of other endocrine glands, the formation of ilpoids, and the formation of ferments.

3 It has considerable resistance and great vital-

4. Transplantation of endometrium from one woman to another by the Serdukoff method is a simple operatio fribich re-establishes the fundamental functions of the female and results in rejuvenation of the org; from Hauch Austrastra, M.D.

Dean A. L., J : Injury of the Urinary Bladder Following radiation of the Uterns. J Ursi 1933 xxiv 5

Pathological anditions of the bladder caused by udiation of the uterus are not uncommon and may ery serious. Sometimes they result in death usadder may be injured even by skilled opera tors and when it is protected as much as possible.

It always receives some irradiation and the amount is increased when large dozes are given as in concess.

The used important production reaction is the tection test important production reaction in the tection test in the test of the production of the test of the production of the test of obligative end attention. There is usually a white avascular central area surrounded by a zone of diluted blood vessels but in some cases the center may break down forming an uker with infection.

The onset of the symptoms is usually sudden. The symptoms consist of frequency hematuria, and dysuria. The pain is acute The hemorrhage may be severe enough to cause death as in two of the

author's cases

A correct diagnoss is very important. It is conparatively easy if the possibility of the condition is kept in mind. It is based on the history and the findings of vaginal examination cystonocyte examination and biopsy. The patient may not associate the condition with the irradiation, as many months may have elapsed since the treatment. Biopsy is necessary as the cystonocyte picture may be indistinguishable from that of cancer. When ulcers are present as in 7; per cent of the suthor's cases they are located in the posterior third of the base of the bladder almost me the middle.

Before ulceration occurs, the prognosis is good. When ulceration is extensive, the prognosis must be guarded and the treatment continued for months.

In order to prevent serious bladder injury in the treatment of uterine disease by irradiation, the amount of irradiation should be limited to the minimal amount necessary for cure and the bladder should be properly shielded.

In general, the treatment of irradiation in ary of the bladder is symptomatic. The principal indica tions are the relief of pain and the overcoming of infection. In most cases the pain can be relieved by the administration of a c.cm. of tincture of hyos cyamus in water every four hours. In some cases codein may be necessary. Heat is soothing, and rest is important Lavage of the bladder with from I to a per cent phosphoric acid is beneficial. As the patient becomes more tolerant, the phosphoric acid may be increased to c per cent and so c.cm of a per cent mercurochrome-220 soluble may be in stilled. The best results are obtained by daily treat ments. The treatment must be given at increasing intervals until healing is complete. The urine should be kept faintly acid. T Flore Bril, M.D.

ADNEXAL AND PERIUTERINE CONDITIONS

Brewer J I., and Jones, H. O.: Granuloss-Cell Hyperplasia of the Ovary Am J Ohn & Grace 933, xxv 504

The origin of the growth of granulose cells has been difficult to determine because the tissues have usualin the serum calcium. Osman and Close have demonstrated that the plasma bicarbonate also decreases. Cameron believes that during the pregnant state calcium is the main custodian of hepatic function and that the blood-calcium level is low especially when a pre-celamptic toxemus is present.

Following the treatment of albuminum of pregnancy suggested by Cameron, the author reports his observations of the calcium alkali therapy. The

treatment is as follows

1 In all cases of albuminuria of pregnancy an alkali compound tablet containing 40 gr of potassium citrate 30 gr of sodium bicarbonate and 756 gr of calcium sodium lactate is given from three to five times daily

2 In severe cases an ampoule containing 20 c cm. of a sterile aqueous solution of 20 gr of sodium bicarbonate and 20 gr of diuretic sodium acetate 15

given intravenously

3 An ampoule containing 5½ gr of anhydrous calcium acetate 1 minim of gladial acetic acid, and sterile water to make a c.cm. is given intravenously. These constituents are made up to 170 c.cm. with sterile water and injected slowly with a funnel and tube.

4 When calcium is used alone 10 per cent cal

cium giuconate is given in 10-c.cm. doses.

Following this treatment the albumin shows a quite remarkable decrease. If it increases again the alkall and calcium are repeated. The treatment is followed also by a fall in the blood pressure and subsidence of the orderne prignative pain, and head ache. While these may recur, the albuminum will usually be controlled. The urnary output is nearly always greatly increased.

The patient is allowed the usual general diet unless the tonemia is severe, when only liquids are given. The increase in the urinary output makes this treat

ment of great value.

As induction of labor is necessary in only a few cases, a high fetal mortality is prevented. The incidence of premature births is also greatly de creased.

The findings and treatment in fifty cases of tox zemia of preparancy including ten with eclampsia are reported. There was no mortality in these cases and the effect of the treatment was usually prompt

POWALD G TOLITHON MD

LABOR AND ITS COMPLICATIONS

Reeh, M. and Iarael, L.: Delivery After a Salt Free Dietary Régime (Laccouchement après ré gime déchloruré) Gyate et son, 1933 xxvil, 193.

Since the publication of a report by Hoistein and Petrequin in 1932 which seemed to show that the administration of a sail free diet during the latter months of pregnancy materially reduces the duration of labor Rech and lated have been studying this problem. From the results noted after this regume in veretic cases they conclude that a sailt free diet diminishes the duration as well as the pain

of labor and greatly decreases the incidence of sparmodic states (lumbar pain prolonged and severuterine contractions spasmodic contractions of the cervis). In the cases reported no other methods to expedite labor or dimminsh the pain were used. In the cases of ten primipairs, complete cervical dilatation was obtained in an average of less than seven hours and in the cases of six secundipairs and four tertipairs, it was obtained in an average of less than four hours.

The results are best when sait is completely climinated from the diet during the last two months of pregnancy. However, as patients do not adhere to the régime strictly, the diet is usually poor in sait rather than free from sait. If the diet is followed strictly the amount of sodium chloride excreted in the urine per liter does not exceed 1 or 2 gm.

While the authors make no claim that this regime is infallible they are convinced that when it is used in consunction with other methods of treatment (artificial rupture of the membranes the administration of pituitary extract and spasmalgine) labor will be rapid and painless. Attempts to find a scien tific explanation for this effect were unsuccessful Determinations of the chloride content of the blood plasma during pregnancy showed no marked devia tions from the normal. Moreoever there was no change in the reaction to galvanic excitation after restriction of salt in the diet and pregnant women did not differ in this respect from non pregnant women. The authors therefore conclude that the decrease of pain has no relationship to galvanic excitability They suggest that changes in mineral fat and protein metabolism during pregnancy may play a part but strongly suspect that the salt free diet in some manner alters the water balance and produces its effect through dehydration.

HAROLD C MACK, M D

Kreis, J. The Physiology and Pathology of Cervical Effacement During Pregnancy. Its Relationably to Engagement of the Head and to Spontaneous Rupture of the Bag of Waters (Physiologie et pathologo de l'effacement du col au cours de la grossense ses rapports a vec l'engagement de la tête et avec la rupture spontanée de la poche des eaus. Cyste ut sein, 1933, savié 97

Studies made at the Strasburg Gynecological and Obstetrical Clinic concerning certain factors in the mechanism of labor particularly the rôle of the bag of waters in dilatation and effacement of the cervix, seem to show that opinous previously beld must be modified. The author summarizes the results of these clinical investigations and attempts to prove that spontaneous delivery is frequently abnormal in a physiological sense and that in the majority of cases a form of treatment which he designates as "medical acconchement is beneficial. His conclusions are as follows.

In the primipara as well as the multipara the state of the cervix its length and its degree of permeabil its present such great variations that fixed theoretical rules cannot be laid down. The variations 218

often result in an imperfect mechanism of efface ment. Effectment of the correct is progressive dur. ing prespancy and occurs from within outward and from below powerd. It should be achieved by the orset of labor without dilatation of the external os. From the physiological point of view the multinara should conform to the same laws as the priminars If she does not, the difference is due, not to a mecha nism different from that present in the priminara. but to a diminution of the normal tissue functions. Similar tiespe abnormalities are present also in a

large number of priminars In the primipers engagement of the fetal head may be independent of the leasth and dilatation of the cervir as well as of the stare of the premancy It has been observed that engagement of the head occurs more frequently when the cervix is short or widely dilated. Opening of the cervix has previously heen recognized as a mechanism compensatory to effacement. Up to a certain point, progressive effacement favors engagement of the head fore from the physiological point of view it is impossible to postulate engagement of the head in the priminers without effecement during premancy If the head remains mobile despite effacement, cur

tain special inhibitory factors are present. In the multipara the incidence of engagement of the head in the tenth lunar month is creater than that of non-engagement. Opening of the cervix be ing more frequent than in the primipara and the mechanism of effacement being facilitated by de creased resistance of the cervix to the contractions of the fundus, it follows that, from the physiological standpoint and from the point of view of engagement of the head, the multipara follows the same laws as the priminara. Occurring simultaneously with effacement of the cervix, there is a descent of the nterns into the pelvis and with it a descent of the external on. This descent may compensate for in sufficient effacement of the cervix and thus bring shout engagement of the bead Failure of this descent to occur may hinder engagement of the head in spite of cervical effacement. The same pathological and physiological mechanisms apply to entipara with the difference that, because of mechanical abnormalities, the multipara frequently enters

labor with the head unengaged. The fate of the bag of waters (spontaneous rupture, premature rupture, or rupture at the time of complete dilatation) is usually determined by the extent to which the membranes are attached to the walls of the lower sterine segment. In general, anomalies of this fixation and faulty muscular mechanisms of effacement determine the time of rupture of the membranes before complete dilatation. Abnormal adherence of the membranes may in it self impede the normal mechanism of effacement. Premature rupture of the membranes occurs most often when effacement is distinctly retarded and least often when effacement is normal. The bag of waters is no longer considered an important factor

in the normal process of diletation and effacement Therefore artificial motors of the ampiotic see is not only excusable, but indicated because coinci dent with retardation of effecement, the bee of waters is one of the principal obstacles to dileta tion of the cetyly during labor

HARRY C. MACK. M.D.

Piccardo: Healing of the Myometrium After Casarsan Section (Sulla riparazione del miomet rio nel tarbo cesario). Arch di estat e ginec., 1011. rl o

The author reviews the conflicting reports in the literature on the histology of the healing of the uter ine incision after crearean section, specifically as to whether it occurs by ambiferation of muscle or by scar formation. Some investigators deny the reseneration of muscle others believe that it occurs to a certain extent and still others find complete restitution of all layers.

Piccardo carried out three series of emeriments. each on both preynant and non-preynant sufner ples. A longitudinal incision was made through the entire thickness of the uterine born and then closed with all autures, the site and technique being comparable to those of cesarean section. Vital staining with trypan blue was employed to study the behavlor of the reticulo-endothellum in the reparative process. In the three series, the injections of the dye were begun at intervals respectively of one and a half two and four months after the operation. The animals were killed twenty-four hours after the eventh injection The histological findings are described at length

Both the gravid and non-gravid uteri showed a linear scar of connective times which was more or less cellular depending on the postoperative inter val. Regeneration of muscle appears possible soon after operation, as muscle cells in mitoris occurred in the scar Later however this phenomenon disappeared. The proliferation of muscle cells was no greater in the pregnant than in the non-pregnant uterus. Piccardo sugrests that the muscle cells are derived from the walls of the newly formed blood vessels. He concludes that after casarean section the myometrium heals in essentially the same man ner as an aseptic incision in any other organ i.e., by scar formation. The endometrium regenerates completely as after curettage and every pregnancy

With regard to the resistance of the cicatrix, Piccardo found that the scierotic connective tisme is certainly no less strong than the myometrium. During pregnancy however the myometrium undergoes biological transformation, while the scar tissue remains unaffected. Although theoretically this inertia might cause disturbances during parturition, it usually does not, because of the relatively small area of uterus involved. If difficulties occur they are the same as those which peconsitated the first operation

The article has illustrations and a hibliography MARY ELIPABETH MORES, M D

PURPERFUM AND ITS COMPLICATIONS

Rose, J. K.: The Value of a Limited Bacteriological Control in the Prophylaxis of Puerperal Sepsia. J. Obn. & Gynec Brit. Emp., 1933, xl, 273

An experiment in bacteriological control with re gard to the streptococcus hemolyticus over the three-year period from 1929 to 1932 is recorded from the Elsie Inglis Maternity Hospital, Edin burgh, Scotland, Increased morbidity was found in all cases in which the hamolytic streptococcus was present in the fauces or vagina during the lying-in period. No attempt was made in any case to investi gate the strain of the organisms. Hemolytic streptococca were found in the genital passages in 68 per cent of hospital patients and in o 6 per cent of district patients. Streptococcal infection giving rise to pyrexia occurred in 0.6 per cent of the hospital cases and in 1.4 per cent of the district cases. The cases classified as 'morbidity cases' were those showing a temperature of 100 degrees F or more on any 2 of the bi-daily readings from the first to the twenty first day of the puerperium. There were 2,785 hospital and 989 district cases. The per centage does not support the view that uncompli cated confinements may be conducted more safely in the patient s home than in a hospital.

In cases with positive threat cultures morbidity in due chiefy to disease of the respiratory system and mastifis. In cases with positive vaginal cultures it is usually of genital origin. In some cases (fewer than o x per cent) hamolytic streptococcumay be normal luhabitants of the lower vagina of the pregnant woman, but when they are present in the vagina during the last month of pregnancy they should be regarded as potentially dangerous.

A knowledge of the bacterial flora of the genital tract, especially during the last month of pregnancy and the early days of the puerpersum is of value as it permits special precautions if pathogenic organisms are found. Preventive measures should include treatment of the throats of patients and attendants with positive throat cultures, freatment of the vagina during the late antennata period and throughout labor when the vacinal cultures are positive and all measures which can be devised to protect the patient from contact with acute or sub-acute infection at home or in the hospital. The technique of the obstetrical attendant should be adequate to prevent the risk of contagion from a sources including droplet infection.

ROWLAND M ERSTRAND M.D.

Benson W T and Rankin A. L. K.: Treatment of Puerperal Septicamia with Antitoxic Serum. Lance 1933 centiv, 848.

The authors attempted to determine the thera peutic value of antitoric serum in puerperal sentermia due to infection with the streptococcus hemolyticus. During a period of six years they studied a series of t14 cases of this condition. The mortality of blood infection due to the strep-

tococcus hemolyticus is at least 70 per cent. The limited but very definite value of serum treatment in scarlet fever led to the use of streptococcul antitorin in puerperal sepins and etysipelas. It was realized that in these infections the pyogenic and invasive properties of the hemolytic streptococcus present a therapeutic problem very different from the relative ly simple neutralization of cotoxin which gives such asthifactory results in scarlating.

In each of the 114 cases the clinical diagnosis of septicerms was confirmed by positive blood cultures during life. While it is impossible to evaluate any method of treatment in puerperal septicerms with scientific accuracy the authors believe that by careful consideration of the patient a age and parity and the duration of her illness at the time of her entrance to the hospital they avoided many errors. To exclude variations in the virulence of the streptococcus a control case was selected for each serum treated patient as far as possible in the same year

The mortality in 57 cases treated with serum was 75 per cent. Twenty four patients received serum intravenously. In several cases temporary improvement followed the injection of the serum. In a few the serum may have prolonged the agony. In many no therapeutic effect could be ascertained.

In the 37 control cases the mortality was 68 per cent. These cases were treated along general lines (19 with a mortality of 68 per cent) as well as by the intravenous administration of glucose and chemotherapy

The authors conclude that a cure for hemolytic streptococcus septicemia is still to be discovered Haray W Fire, M D

MISCRLLAMBOUS

Peckham, C. H. The Effect of Increasing Parity on Some Obstetrical Conditions. Bull Johns Hopkins Hosp. Bult. 1933 Ill, 325

In an analysis of a series of 29,227 consecutive deliveries at or near term on the obstetrical service of the Johns Hopkins Hospital, Baltimore, it was found that both the maternal and the fetal mortality rates rise with increasing parity In the cases of multipare the maternal mortality is constantly higher than in the cases of primpare. The fetal mortality is lowest in the cases of pare if and pare-life and increases with parity until, in the cases of pare-vin and above it is higher than the fetal mortality in the cases of pare-life in the cases of cases of pare-life and increases with parity until, in the cases of pare-life in the cases of colored women than in the cases of white women.

From a study made of some of the more common obstetrical complications to determine the cause of these differences the following conclusions are drawn

There is a definite increase in the incidence of breech presentation in the cases of pare-vi and above. This type of presentation occurs more frequently in white women than in colored women

- 3 Transverse presentation occurs rarely in primipare and becomes increasingly common with an increase in parity. It is also more common in white women than in colored women.
- Eclampos is predominantly a disease of pri mipare showing no increase in the cases of women who have borne a large number of children. It occurs somewhat more frequently in colored women than in white women.
- 4. Nephritis increases with parity and un doubtedly is an important factor in the mortality in the cases of women who have borne a large number of children. There is very little difference in its incidence in white and colored women.
- 5 The incidence of total toxemiss is high in primipare. It is lowest in secundipare. After the birth of the second child it increases steadily and rapidly. In the cases of pare-vii and above it is higher than in primipare. Very little difference is noted in its incidence in white women and colored
- women
 6 Placents previa occurs most frequently in multiparse and its incidence increases with parity. It is somewhat more frequent in white women than in colored women.
- 7 Premature separation of the placenta occurs with about equal frequency in parse-t to pare-vil. In women who have borne more than 7 thil dren it is definitely increased. It is alightly more common in white women than in colored women.
- Notice in the incidence of postpartum hemorrhage is highest in primipane. After the birth of the first child it steadily decreases except that in the cases of paners and above it shows a rather sharp increase.

- It is much more common in white women than in colored women.
- Pyelitis is most common in primipare and decreases with increasing parity. It occurs more often in white women than in colored women.
- 10 Multiple pregnancy is apparently most apt to occur in parse-vi and above and least apt to occur in primipare. It is slightly more frequent in white women than in colored women.
- 11 Pumperal infection occurs most frequently in primiparae. After the birth of the first child its incidence decreases steadily until the para-v group is reached, when it rises somewhat. It is much more common in colored women than in white women, and is the chief cause of the greater mortality of colored women.
- 12 The incidence of operative delivery is highest in the cases of primiparse. It is lowest in the cases of parse-ly and parse v but after the birth of the fifth child it shows a steady and rather rapid rise. It occurs much more commonly in the cases of white women than in those of colored women.
- 7.3 The smallest infants are born to primipare With increasing parity the weight of the child rise steadily so that the average child born to a para x or more weights 12 oz. more than the child of the primipara. The children of white women are on an average, several ounces heavier than those of colored women.
- 14. Although the mean duration of labor is naturally several hours more in the cases of primipare than in those of multipare no significant change is noted with increasing parity. The average labor is definitely longer in colored women than in white women.

GENITO-URINARY SURGERY

ADRENAL, KIDNEY, AND URETER

Schins, H. R. and Uchlinger E.: Hypernephroma and Its Mematrasis to Bone (Das Hypernephrom und seine Knochenmetastasierung) Acts radiol 1033 ziv 56

From the biological point of view hypernephromata occupy a special place among malignant tumors. They are most common in the sixth decade of life and occur four times more frequently in males than in females. Of the authors' thirty four cases, # single metastasis occurred in six and multiple metastases in fourteen. The metastases were found most frequently in the lungs and bones. The bone metastases are often the first metastases and are often single. In most cases they are associated with involvement of the internal organs. Multiple bone metastases occur most often in the bones of the trunk, the femur and the humerus. They are fre quently found in symmetrical bones. Single bone metastases occur most often in the humerus the skull, and the proximal metaphysis of the femur very often the single bone metastases develop earlier than the primary tumor

The bones metastases are almost exclusively osteoclastic processes. Roentgenograms may show typical and atypical pictures. In the long bones the typical picture is that of a central oval defect with spontaneous fracture of the dnaphysis. In the first bones the scap-bubble picture is typical. The stypical structure to observed when the destruction of the bones is very advanced, when osteosclerottc processes prevail, and when there are multiple bone metastases. If the metastases are small, the bones may show no signs of involvement in the roentgenogram.

Metastases of hypernephroma are generally rather resistant to irradiation treatment

Sacco E.: The Hydromechanical Relationships Between the Renal Pelvis and Kidney (Con tribute allo studio dei rapporti idromecranici tra bacinetto e reno) Arch tial di arch, 1932 [x, 270.

Blum, in 1012 was the first to discover the mechanism of pyelovenous backflow He found injected collargol in the peritubular lymphatic spaces. In man, the pressure which causes pyelove nous backflow is less than the renal secretary pressure. The backflow is the direct result of trauma, first to the calyces and then to the renal veins. Fuchs drew the following conclusions with regard to it.

r Under a pressure alightly greater than the maximum secretory pressure, it is possible in 70 per cent of cases to cause the passage of pelvic contents into the read velus.

2 Such passage occurs in the fornices of the calyces

3 When the pelvic contents have reached the renal tissue through the pelvic rupture they proceed along the perivascular spaces of the interlobular venus and penetrate the lumina of these vessels, establishing a direct communication between the cavity of the upper urinary tract and the general blood atream.

In 1936 Bird and Mouse presented opposite views. They observed that when Prussian blue was in jected into the renal pelvis of the dog under a pressure increasing from 10 to 100 mm. Hg it penetrated the renal tubules and reached Bowman s capsule without causing rupture of the pelvic wall. They concluded that when the wall of the kidney pelvis is intact, pyelovenous backflow does not occur

The author states that under normal conditions there is no direct connection between the kidney pelvis and the kidney Except in council and phagocytic processes, backflow of a fluid under pressure in the renal pelvis probably begins at the point of least resistance. Some believe that fluid introduced into the renal pelvis under pressure becomes diffused through the urinary tubules.

The fundamental question concerns the degree of pressure needed to produce pyelovenous backflow Shiga and Traut demonstrated that in normal kidneys the pressure can be greater than the secretory pressure and at times may reach 220 mm. Hg

The urinary tubules, interstitual lymphatic system, and renal veins may be considered a mass of spaces and canals through which the pelvic contents can find a more or less complete route of discharge when the normal outflow of the ureters is blocked. The ideal route is through a rupture of the fornix. In the human kidney the pelvic contents usually pass into the venous system by the retrograde route through a rupture of the fornices and only exceptionally by a canalicular reflux. Under pathological conditions pyelovenous backflow takes place at a pressure less than that necessary in the normal kidkey. A sudden or gradual increase in the intrapelvic pressure due to occlusion of the ureter peristaltic waves strong contractions of the abdominal walls direct or indirect trauma to the kidney or instru mental intervention will cause the direct passage of the pelvic contents into the venous system and then into the general blood stream.

The direct passage of the pelvic contents into the general blood stream through ruptured fornices protects the renal parenthyma and may retard complete distriction of the billion.

destruction of the kidney

It is probable that hemorrhage observed in the first stage following complete and permanent ligation of the ureters and occurring in intermittent

hydronephrosis is often caused by rupture of the fornices following a rapid increase in the intrapelvic pressure.

Transports P Grauer, M D

Redi R.: Ectasia of the Renal Calyces (Calicectasis renall) Arch. stell d chir 1933 xxxisi,

Following a review of the normal anatomy variations, capacity and physiology of the renal calyces and pelvia, the author discusses the local changes in the renal calyces which have been likened to the so-called small patiful hydronephrosis. He proposes to differentiate the two conditions.

He reports eight cases in detail. In seven, the condition occurred on the left side. Its incidence in the two serse was equal. In its cases there was a shistory of a previous infectious disease with some possibility of an ascending or descending infection. The symptoms were variable but consisted chiefly of inliness, heaviness, and plan in the lumbar region of childrens, heaviness, and plan in the lumbar region of

symptoms were variable but consisted chiefly of fullness, heaviness, and pain in the lumber region of the effected side. Urinary symptoms were not the rule Examination of the urine revealed some sedi ment with desquamated epithelium of renal or bladder origin, bacteria, and red globules, all of which were signs of a somewhat chronic inflamma the Physical examination usually showed retraction of the abdomen. In five cases, the lower pole of the affected kidney was palpable. Cystoscopic examination usually revealed signs of an inflamma tory process on the affected side with reddening and ordema of the ureteral orifice. In seven cases the appearance of indigo-carmine was delayed. The canacity of the pelvis rarely exceeded 15 c.cm and pain occurred on alight distention. Retrograde pyclography disclosed some flattening of the renal ranfilm and ectasis of the involved calvees. In four cases the superior calva was involved in three cases an accessory calyx of the superior pole and in one case, the interior calva-

The treatment varied with the condition of the parenchyma and the calys involved. In cases in which the cause is determined to be a stone, papillo-ma malformation, or other mechanical obstruction, the cause should be removed. This often requires nephrectomy. Dystonia with a superimposed ecta also usually calls for nephrectomy. When the cause is an acute infectious process, the condition may be relieved by decapaulation, improved draining or larger. Both committee the position for the result of the cause of the condition of the cases of the condition of the cases of the condition of the cases reported the results were good, and in some of them a complete cure was obtained.

A Louis Rose, M.D.

Salto, G : The Use of Sodium Hypomiphits in the Study of the Separate Function of the Kidneys (La prova dell' prosolito di soda nello ancido della funcionalità separata del real). Ann. Bol. di chir 1013, 11, 17

The technique of the use of sodium hyposulphite in determining the separate function of the kidneys, a test proposed by \yiri in 1923 is as follows The uncters are catheterized and a control specimes of urine is collected. Ten cubic contineeters of a ½ normal solution of sodium hyposulphite are then in jected intravenously and the unne is collected by uncterial catheter for two bours, addified, filtered through animal charcoal, and titrated against a N/zo lodiue solution.

The great disadvantages of the method are the fact that the ureteral catheters must be left in place for a considerable time and the fact that error may be introduced by refux into the bladder from the catheterized ureter and incomplete emptying of the pelvis of the kidney. However in the authors studies in twelve cases the test gave results comparable with those of some of the more commonly used tests of read function. Forces of Lepton Lib.

Orofino, A.: Experimental Studies of the Renal Changes Following Ligation of the Ranal Vein (Richerthe sperimental sulls alteration del rose in secution and legature della vena annigente) Am their first hour riches.

In experiments on does, the author performed a unilateral ligation of the renal vein by the lumbar route. By means of exstrophy of the bladder be collected the urine of both kidneys and studied the changes in their function. He found decreased elimination of salt solution by the kidney subjected to operation and hyperfunction of the normal kid-During the first few days after the ligation, the kidney was increased in size and histological examination disclosed orderns hemorrhagic in filtrations, and more or less marked glomerulotubular legious. Later aclemais with increased regressive changes of the renal payenchyma developed until the kidney became very small and scierotic. These changes coincided with the changes in the The author's findings are function of the kidney summarized as follows

r Complete unilateral ligation of the renal vein of the dog by the lumbar route may cause death in from one to three days

3 Death is not preceded by convulsions or anuria only depression, oliguria and albuminuria are noted.

 In case of survival there is first an cedema of the kidney with anuria.

4. After a day or two elimination of urine begins. The amount is less than the amount from the nor mal kidney and the elimination of ures is greatly reduced.

 After a month the function of the kidney is greatly reduced.

6 With reduction of function there is a progressive decrease in the size of the organ.

7 Ligation of the renal vein is incompatible with

the life and nutrition of the kidney and may result in damage to the organism through the toxic action of the renal tissue.

o. In case of a lesion or insury of the renal vein,

nephrectomy is preferable to ligation of the renal vein.

THEODORE P GRAVER, M.D.

Lani, E: Nephrectomy in Renal Tuberculosis (La neirectomia nella tubercolosi renale) 1rck ital di chir., 1933 XXXIII, 241

The author reports his observations in twenty two cases of renal tuberculosis. The majority of the pa tients were between twenty and forty years of age. Sixteen of them were females. The renal tubercu losis was of the pyonephrotic type in twelve cases, of the ulcerocaseous type in eight cases, and of the type with disseminated nodules in two cases. In two cases it was associated with genital tubercu losis in seven cases, with pulmonary tuberculosis and in one case with Pott's duesse. In one case calculi were found in the tuberculous kidney

Leni believes that nephrectomy is usually indicated in renal tuberculosis, and that bilateral renal tuberculous is not always a contra indication to

removal of the more involved kidney

In the cases reviewed follow up studies over a period varying from two to eight years disclosed the frequent persistence of bladder symptoms. In one case fistule occurred in the incision and in another a cold abscess developed

One patient died from bilateral pulmonary tuber culosis nine days after the operation and one died from pulmonary tuberculosis four years later Four teen patients reported complete subsidence of all symptoms, and six reported incomplete relief

PETER A. ROSI, M D

Harrah F W: Embryonal Sarcoma of the Kidney in Children J Urel., 1933 xxix 445

It has been estimated that 25 per cent of all kid ney tumors occur in children. Sixty per cent of embryonal sarcomata are found in children under three years of age, and 75 per cent in children under six years of age. The embryonal sarcoma is a mixed tumor usually called adenosarcoma or Wilms Although it may contain a great variety of tissues, epithelial and connective tissues predominate. A cystic structure is not uncommon.

The tumor originates in the parenchyma usually at one of the poles and is surrounded by a capsule. As it extends at first by expansion, the kidney may assume various positions and shapes. The kidney suffers from compression and atrophy and may undergo degeneration. It has been stated that a growing organ is better able to resist tumor en croschment than an organ which is fully developed. In cases of embryonal sarcoma the enlargement is usually spherical. Metastasis does not occur early In the later stages the capsule is broken and in filtration of other organs with adhesions and meta static secondary growths is common. Because of the immense size which the tumor attains the abdominal organs and at times the organs in the chest are displaced

The histological structure of the tumor depends upon the tissues which predominate. Elementary tubules of cylindrical or cubical epithelium in a bed of spindle cells of sarcomatous type are char acteristic Glomerulus-like formations are usually

found Muscle fibers myxomatous tissue cartilage bone, and fat may be present.

The genesis of the neoplasm is doubtful. Trauma and infection have been suggested as factors in its development. According to the theory of Nicholson the tumor is a malformation of the embryonic kid ney with failure of union between the melanephrogenic blastems and the ureter. The tumor is the malformed kidney itself and not a neoplasm origi nating in a malformed kidney The abnormal stimulus is due to a general intoxication or infec

tion, probably of maternal origin

The first sign noticed is usually enlargement of the abdomen. As a rule this is followed by pallor weakness loss of appetite aversion for walking fever and constipation. In the majority of cases pain is late. The pressure of the neoplasm may cause intestinal obstruction peripheral ordema and ascites, and may interfere with lung and heart action. Urinary symptoms may be absent Reflex anuria may occur Albuminuria is not constant Gross hamaturia is unusual and intermittent. The only constant finding is the tumor itself

Tumors of this type are uncommon in adults. Of chief importance in the diagnosis is the urological examination. This should include cystoscopy with pyclography and a determination of the function of the other kidney Biopsy may destroy the defense formed by the capsule.

The treatment indicated is nephrectomy If the tumor is radiosensitive this should be preceded by deep X ray irradiation. If the tumor responds to X ray irradiation it will greatly decrease in size If it is not operated upon then, the recurrence will be radioresistant. If irradiation is not given be fore operation, it should be given after operation The mortality following nephrectomy early and late is estimated at between 86 and 95 per cent.

The authors report two cases of embryonal adenomyosarcoma one that of a child two years of age and the other that of a child five years of age. The first patient was seen after two courses of deep X ray therapy The neoplasm responded to the first course, but was resistant to the second Six months after the onset of symptoms the recurrent tumor weighed 12 lb Nephrectomy was done, but death occurred after five months. In the second case the tumor weighed 7 lb five weeks after the first observation of full stomach. Nephrectomy was rapidly followed by metastasis and death occurred three months after the operation.

The following conclusions are drawn

r When progressive abdominal enlargement is noted in a baby or child a careful examination should be made to determine its cause.

2 Malignant tumor of the kidney is not uncom mon in children.

3 The absence of early pain and harmaturia is due to the growth capacity of the young kidney and renders early diagnosis more difficult.

4. The prognosis of embryonal sarcoma of the kidnes is very grave

5. The treatment of choice is radiotherapy and someony combined.

6 Regional invasions and metastases have usu ally occurred by the time the patient comes for examination.

CLAUDE D PREMELL, M D

BLADDER, URETHRA, AND PENIS

Maltese and Le Roy: Disectasia of the Neck of the Bladder (Contribute allo stadio delle disectasis del collo vescicale) Arch. list. di arai 035, x, 52

The authors report two cases of congenital hypertrophy of the neck of the bladder. The first was that of a patient twenty five years old and the second that of a patient forty years old. The first patient had had slowly increasing difficulty in orination since the age of fourteen years. In both cases the nervous system was normal and the chief finding was an enormous hypertrophy of the neck of the bladder. The wills of the bladder were also very thick, resembling those of the uterus. In the first case there was, in addition, an enormous dilatation of the right ureter. This might have been due to retention, but as it was unlistered was probably congenital. Also in favor of a congenital origin of the condition was the presence of diverticula in the bladder.

Legueu has given the name "disectasis" to a condition in which the neck of the bladder is incapable of opening. This name indicates the effect on the function of the organ of a series of anatomical chapter sather than the cause of the condition. The

condition develops alonly. The treatment of discrtain of the neck of the bladder is complete resection of the neck by cystomy usually in a single stage. This operation was performed with complete success in both of the authors cases, but in the second case was done in two stages on account of the patient's poor condition.

AURILY GORN HORSON M.D.

Beer E.: Bladder Tumors; Diagnosis and Treat ment. Sure Clin. North Ass., 222 xffl. 225.

This contribution is based on Bers a sperience in about 500 cases of bladder tumor. During the past thirty years the diagnosis and treatment of such tumors has been facilitated by cytoscopy high-requency machines, and, in selected cases, the use of radium. According to the cases reviewed, bladder tumors are 4 times as frequent in males as in females and are most common between the ages of fifty and sixty years. Chemical irritation seems to be a receiving factor

The most common type of bladder tumor is of epithelial origin and is primary in the bladder Of the epithelial growths, to per cent are benden. The remainder include papillary curricoms and sold modular or alcorating cardinoms. The most common connective tissue tumors, which are relatively infraquent, are sarroum, myosarroum, mixed tumors, and nyrofibroums. Metastautic tumors of the bladder from distant organs are rare. In the cand-stages, tumors of the uterus, algmoid and rectum may the badder accondarily. Years ago Hamenas emphasized the importance of anaplasis. Most appticable pathologists today agree with him that the more the tumor conforms to the typical cells from which it arises the more beingh it is, and the more it varies from the typical cell, the less differentiated and more malignant (is. There is a morphological as sells as physiological concept underlying the theory of an phase. Broder a stimpt to determine the prognosis of malignant growths is based on Hanseman a concention, but it not always accessful.

The more benign types of bladder tumors tend to produce multiple implants. Malignant metastases may follow with a benign papilloma in either the suprapuble incision or a distant organ. In cases of tumor of the bladder quiescent foci may be present in local stands for many vers without symptoms.

The diagnosis of bladder tumor is made by cysticatory. The cystocopic differentiation between being papillons and papillary carcinoma is sometimes difficult. As a rule the malignant type is fleshire and shows moreor leasentensive areas of necrosis. The pedide may be thick, and the adjacent bladder mucosa is ordens tons. In localising the infiltration of the bladder wall opposite the site of attachment of the tumor bimanual palpation is often of great assistance. Not bimanual palpation is often of great assistance. Not of the control of the

need as a check-am The perfection of cystoscopic instruments made it possible for the author in 1010 to treat bladder tumors through the cystoscope with the highfrequency current. It is best to use the cooking action of the diathermy current. At the same sitting specimens may be removed for diagnostic purposes. At intervals of from ten days to two weeks the treat ment should be repeated until the base of the tumor has been thoroughly congulated. Check-up examinations are essential. If the tumor does not melt away and pathological examination apprecia malignancy the tumor and adjacent bladder wall should be removed suprapublically. At the open operation the tumor and its base can be treated also by ther ough electric congulation with or without resection of the bladder wall and with or without seeding of the base with radium. Very excellent results are obtained. In well over 60 per cent of the cases reviewed the patient was permanently cured. At the end of the operation the author floods the entire bladder with alcohol to destroy all viable tumor calls. This is done before the packings are removed, with the table in a horizontal position. In cases of infiltrating carcinome the end-results are not satisfactory because it is difficult to gauge the extent of the infiltration. When the infiltrating growths involve the neck of the bladder and the adjacent trigone and lateral walls, making resection impossible, Beer performs a

total cystectomy with extraperitioneal implantation of the ureters in the ingunal region where they are intubated. This is done in a stage. Beer prefers this method to implantation of the ureters into the signoid. He indis his petilents comfortable and free from malignancy many years after the operation. Nay treatment has proved useless. Although many chinks have had no good results from Irradiation with radium, the author advocates the use of radium in certain cases.

Red! R., and Marri P: Partial Resection of the Bladder for Infiltrating Cancer Followed by Regeneration of the Wall of the Bladder (Sulla reactione partials della vescica urinaria per cancro infiltrante e sulla consecutiva rigenerazione della parete vescicale) Arch tial li uria, 1933 x, 3

This article is begun by a discussion of the comparative value of operative and non-operative treat ment of malignant tumors of the bladder. The authors believe that non-operative treatment including radium irradiation should be used only when operation is impossible. Because of the excellent results obtained by electrocosyluiation both by extotomy and the endoscopic method, they are of the opinion that, in surgical treatment, the electrical bistoury should be used, especially for resection of the bladder. Incision with the electrical bistoury causes electrocosyluiation of tissue that may be readily invaded even if only to a slight extent, by the cancer cells. The electrical bistoury puts an absolute stop to this process of dissemination and thereby perents local recurrence.

The authors report a case in which subtotal resection of half of the bladder was done with the electrical bistoury. In the year which has elapsed since the operation there has been no recurrence. The patient a condition is now greatly improved and only a small fatula remains at the site of operation. A detailed histological description of the specimen is given. The colis were very typical showing a high degree of malignancy. The most interesting observation in this case was regeneration of the wall of the bladder including all of the layers (muscle and mucoss) from the part of the bladder that was left. Such regeneration has been described also by other surgeons. Three cases reported by Nicolich are reviewed briefly. Auvirar Goss Monday M.D.

GENITAL ORGANS

Liores F O and Bothr J: The Lymphatics of the Prostate (Collecteurs lymphatiques de la prostate) Ann d'anal pain., 1933 x 57

The lymphatics of the prostate leave the gland at its upper and posterior portion. They follow the course of various arteries (the anterior vescal, the prostatic, the superior bemorrholdal) the course of the canals (the determit canal the ureter) or pursue an independent course

They terminate in all of the glands of the pelvis, in most of the external fliar glands, and in the infe

rior mesentenc glands. Of these glands the prevenous gland of the first like bifurcation and a hypogastric gland nearly always receive the greater part of the prostatic lymph. The uppermost gland with which the prostate may have a direct lymphatic connection is the lowest left para sortic gland and the lowest gland the median retrocrural gland.

The lymphatics issuing from the left and right aides of the prostate may after their exit from the gland, follow a median line on the anternor surface of the bladder or the promontory and thus reach the gland on the opposite side. The lymphatics of the prostate communicate with those of the bladder and exchine.

As giandular invasion occurs early in cancer of the prostate it is an important factor as it determines surgical intervention.

Clinical observations as well as anatomical find ing show that the groups of glands most frequently involved are the hypogastric and external iliac glands. Next in frequency of involvement are the para-nortic glands. This invasion may occur by two routes direct or indirect. Direct invasion is very rare. Of the two indirect routes, one is parletal, following the hypogastric and first iliac chains and the other is visceral, being the superior hemorrhoidal chain of glands.

Hallopean has called attention to the possibility of invasion of the mesenteric glands in canner of the protate. The authors were able to inject the mesen teric glands indirectly from the prostate by way of the superior hemorrholdal vein.

Invasion of the inguinal glands is quite rare in cancer of the prostate. It may occur by retrograde extension from the external lines glands or may be secondary to involvement of the tissues normally tributary to these glands and aurrounding the prostate. Cancer may extend from a neoplasm of the perincum to the lower part of the rectum and the anterior part of the urethrs.

Anatomical findings explain also the great fre quency of vesical invasion in cancer of the prostate The Infiltration attacks the vesical musculature first, and the mucosa later. This course of invasion is probably due to the intimate relationship of the prostatic lymphatics to the muscular layer of the anterior surface of the bladder. The authors have shown that some of the lymphatics open into the prevencial glands.

In cancer of the prostate bony metastases are quite common especially in the sacrum and lumber spine. These two localizations are explained better by lymphatic extension, than by hiematogenous extension. The bony metastases in these regions appear secondary to involvement of the presacral or para-scortic glands, which receive lymphatics not only from the prostate but also from these bones. There is probably a retrograde invasion from the glands to the bones.

The facts reviewed explain the enormous difficulties encountered in the treatment of cancer of the prostate.

EDITH S. MOORE.

Memmi, R.: So-Called Simple Prostatic Hyper trophy (Sulla coaldetta ipertrofia semplice della prostata) Polidia Rome, 1932 xxxix, sea chir

Of the elements constituting the prostate gland, the most important are the epithelial elements. Before puberty epithelial cells, remaining in the strome, have no characteristic feature, only signs of a lumen or alweoll are present. With sexual maturity follicits appear. Some investigation have found only a single stratum of cyfindrical cells with old nucles and fine protoplasmic granules, a sign of cellular activity. The secretion seems to activate the cells with the secretion seems to activate the cells of the cells o

Most uralogists consider prostatis enlargement a neoplastic process. Virhor concluded that diffuse prostatic hypertrophy does not occur that the outjorn of prostate hypertrophy is nodular. Some urologists daim that prostatic enlargement is due to inflammation Lasso noted the epithelial changes, the lengthening of the alveolar lonina, and the development of connective tissue and submucosal glands that form the median lobes and concluded the epithelial profileration of proposition to the testing of the control of the control of the retention of secretion and epithelial changes is followed by senile involution of the organ.

The theory that prostatic hypertrophy is due to inflammation is not confirmed by the findings of histological study. However inflammatory changes may be a secondary factor

Endocrine disturbances have also been suggested as the cause of simple prostatic hypertrophy. This ruggestion was based on the finding of prostatic atrophy following custration. Numerous histological studies demonstrate that the changes are not uniformly diffuse in the giand, but occur rather in disseminated podules throughout the gland.

An important characteristic—the only means of distinguishing the newly formed nodules from other them—is the presence of fibroblasts

The author persents the findings of the histological examination of forty prostates removed at operation and ten removed at autopsy. He stresses the importance of the presence of elastic fibers in the recognition of newly formed tusine. He found diffuse hypertrophy due to distention of the glandsite silvedit, and the nodular form due to adenosibromyconations modules.

— Through F Gavera, M.D.

Vaiverda, B.: Clinical Facts Related to Chronic Vesiculitis (A propos de certains faits chakmes liés aux ésiculites chroniques) J d'aral més et chir 1933, xvv cô.

In a large urological practice the author has found chronic vestculitis to be a common complication of genorrhers in the male. Of 1 roo private patients, he found it in 340 and of 3,064 ward patients, he found it in 435. He does not give any explanation for its greater incidence in private patients. Acute vesiculitis was comparatively rare.

Chronic vesiculitis may be accompanied by a large number of symptoms, including local pains, pain in the testicle, painful ejaculation, pain follow ing coltus, rehumatoid pains of varying intensity pain radiating toward the urethra or penis thighs, propastrium or bladder and attacks of recurrent orchi-spikildymutis, rheumattam, and arthritis. The author reviews cases presenting a syndrome of intoxication with pallor and malaise fatigue loss of virility and sernal desire, and emaclatic

The diagnosis of chronic vesticulitis is usually made by palpation and urethroscopic examination. Occasionally these measures are supplemented by continue assumination following the injection of radio-opaque material. The enlarged vesicles can often be palpated as large indurated and tender masses above the prostate. Frequently a secretion containing genoscoci can be obtained from them Urethroscopy may show infiltration of the prostatic fossett; enlargement and congestion of the vertical content of the content

The treatment consists of daily urethral lavage. The treatment consists of daily urethral lavage within 18 consists of polarism permanantal and the state of the consists of the consists of the consists of the urethrace of the consists
JOHN R EFFOR, M D

Browns, D : Anatomical Points in Operation for Undescended Testicle Lauce 1933 ccxviv 460.

The author calls attention to the importance of accurately visualizing the normal structures before attempting to correct an abnormality such as understudent excited. He describes the various expectable compared to the expectable control of the expectable control of the expectation of the expe

F M. Cocamon, M D

MISCELLANEOUS

Vajano, D : Roentgen Examination of the Uri nery Tract by Elimination Urography (L'Ioda gine radiologica dell apparato urinano mediant | strografia d'elizinazione) | Radiol med 933 EX, sol.

Vajano discusses the comparative value of seconding pyelography and pyelography by the intravenous method, which latter he calls elimination prography and reviews his expenence with intra venous pyelography in forty nine cases He states that there is an essential difference in the information furnished by the two methods. The information yielded by ascending pyelography is purely morphological, while that obtained by intravenous pyelog raphy is both morphological and functional. The factors entering into the production of the picture in intravenous pyelography are the condition of the parenchyma repal filter renal pelvis ureters blad der and peripheral circulation and the technique employed Vajano discusses the technique and de scribes the picture in normal and pathological conditions.

He concludes that intravenous urography simplifies and at the same time supplements the methods available for the diagnosis of urmary diseases. It has practically no contra indications and is simple and absolutely harmless. By the use of this method alone it is possible to study many problems of morphology and function which formerly required various complicated procedures. While intravenous pyelography cannot replace the ascending method in all cases, it can be substituted for the latter ad vantageously in many

From the purely morphological standpoint it is without doubt inferior to ascending pyelography as the picture given by the ascending method is more distinct and richer in contrast, the concentration of the opaque substance in the urine being much higher However the pictures produced by the intravenous method are generally distinct enough to give the desired information and sometimes are sufficient in themselves to show the location and sevents of a kidney lesion and whether surmeal operation is in dicated. Moreover they conform more closely to physiological conditions than those obtained by the ascending method The intravenous method is superior for the demonstration of certain anomalies of the urinary tract such as ectopus of the kidney bifurcated or double ureters and deviations, kinks, and diverticula of the ureters, whereas retrograde pyelography is preferable for the demonstration of alight changes such as alight defects in the filling of the renal pelvis and calvees and for cases in which diffuse meteorism interferes with the interpretation of the intravenous pyelogram

Because of its absolute harmlessness, intrave nous pyclography is to be preferred in all cases in which the cystoscope might harm the patient, as in inflammatory conditions of the ureters, bladder or adnexa tuberculous of the bladder or kidney pregnancy old age and childhood and poor general condition In cases of obstruction of the ureter which prevents the passage of a sound and therefore the introduction of contrast fluid, it is of course the only method possible. It usually shows the form and size of the kidney and it is of value in the diag nosis of anomalies and tumors of the upper quad rant of the abdomen, particularly in cases in which the kidney parenchyma has been destroyed by a tumor without any change in the outline of the

The article has a long bibliography AUDREY GOES MORGAN M D

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Dubrauil G Charhonnel M., and Massé, L.: Normal and Pathological Ostsogenesia: Theories Concerning the Rôle of Ostsoblasta (Les processes normain: et pathologiques de l'ortégribles, Les librories et le rôle des ostroblasts)

This rather extrasive article consists of three sections. In the first section the authors discuss the theories concerning the process of osteogenesis and the function of cateoblasts as they have been gradinally evolved since the osteoblasts were first described by Gegenbaur in 1864. In the second section they analyze the work of Hetts Boyer Scheikewitch and Leriche and Polkard, who have been the leaders in criticism of the accepted views and are largely responsible for the newer theories concerning outcogenesis. In the third section they report their own indiging and give a critical discussion of the accepted

and more recent theories.

According to Heltz Boyer chemical phenomena dominate the processes of bone formation partieularly the chemistry of the salts of calcium and bone repair is a process fundamentally analogous to inflammation except that the cellular activity is serroodary to the chemical and inflammatory roce.

cases. In the work of Leriche and Polkeard entitled Problems of Normal Physiology and Pathology of Bone, the essential ideas of Helia Boyer are accepted, but much greater stress is laid on the physiochemical phenomena and less importance is ascribed to the role of inflammation. The octeoblasts are characterized as of practically no importance in

bone formation or repair In the repair of hone there is first an ordematous infiltration at the site of new bone formation when the part is well nourished with an active blood and lymph supply This infiltration is not found in the normal ossification of growing bone. The next phase noted in bone repair is multiplication of con nective tissue fibrils, which seem to play an impor tant rôle in the laving down of the pre-osseous substance The authors believe that the appear ance of the pre-osseous substance parallels the appearance of osteoblasts which are found close together and joined to each other by fine fibers. No active zone of true ossification exists without osteoblasts under either normal, pathological, or experimental conditions. The authors subscribe to the view that, like the odontoblasts, the specialized function of which is the formation of the enamel of the teeth, the ostroblasts are homologues of fibroblasts or cartilaginous cells. They believe that the outeoblasts arise from young connective these cells, and that the use of vital staining methods has proved that these cells have a definite oatcobastle secretion, are essential to the laying down of mineral salts, particularly the salts of calcium and do not degenerate until after ossification is finished. They draw also the following conclusions

I The osteogenic layer of bone is present when ever necessary disappearing when its function is not needed and re-appearing under the stimulus of

trauma irritation, or inflammation.

2 A perioateal layer exists over all of the bones.
3 Tramplantation of perioateum does not give better results than tramplantation of other organs.
4. The fibrous layer of the perioateum is a passive membrane of the same character as tendon or a property of the perioateum in a passive membrane of the same character as tendon or a fibrous with the perioa tendon or a fibrous with the perio

Albes, F. H. The Treatment of Octoomyelitis by Bacterlophage. J. Bene & Joint Surg. 1933

The author was very favorably impressed by the good results obtained with the Orr method in the treatment of osteomyelitis, but was not convinced that the favorable outcome was due to the factors to which they were attributed by Orr namely rest, immobilization, and the avaidance of re-infection by repeated dressings. He wondered whether the good results might not have been due to the development of a bacteriophage in the wound. With the help of MacNeal of the Department of Racteriology of the Postgraduate Hospital, New York, he made a study of cases of osteomyelitis to determine the causative organisms and whether a bacterlophage was present or not Of a series of 100 cases, a staphylococcus was found in nure culture in 40 per cent a streptococcus in pure culture in 15 per cent and a mixture of stanhylococcus and attentococcus in 53 per cent, the staphylococens predominating in 38 per cent and the streptococcus predominating in 15 per cent. In 04 per cent of these cases a bac teriophage developed apontaneously

On the basis of these findings, Albee has modified the Orr method for the treatment of osteomyelitis as follows:

The diseased bone is removed as completely as possible and two-thirds of a test tube of bacteriophage potent for the organism present is insufficient the wound is as to bathe the whole surface. The wound is then packed with a parafine-vascilize mixture in the proportion of 3 to 1 for magnificial cavities and 0 to 1 for deep cavities. This mixture is introduced into the wound in a melted state at a temperature of about 1 to degrees F by means of a large syringe. After it has cooled and hardened it fills the crevices of the wound and keeps the soft parts above the bone separated yet does not inter-

fere with the healing process. A rubber catheter is inserted through the parafin-vaseline wound tampon to the bottom of the bone cavity for the subsequent injection of the bacteriophage. The wound is then covered with compresses and bandaged and the part is put up in a cast. Once or twice a week 10 c.cm. of bacteriophage are injected through the tube. After eight weeks the dressings are removed and if the wound is not healed it is redressed in the same way and the part again put up in a cast.

The average healing time in cases so treated was about six months and the average number of dress-

ings was 5

The advantages of the treatment described are summarized briefly as follows

1 The method is simple.

s It does not interfere with immobilization, 3 The paraffin vaseline tampon yields to the healing tursues.

4. It permits the periodical introduction of bacterlophage.

In a comparison of irradiated vaseline with ordi nary vaseline with regard to their effect on cultures of streptococcus and staphylococcus and on the action of bacteriophage, Albee noted no difference

FRANK MELENEY M.D.

Meyer and Weiss: Two New Cases of Osseous Sporotrichosia (Deux nouveaux cas de sporo-trichose ossense) Res d'orikop, 1932 xxxlx 696

Osseous sporotrichosis presents many different clinical pictures, but the most common resembles

that of chronic osteomyelitis.

The first case reported by the authors was that of a man thirty five years of age who sought treatment for pain and disability in the right heel. In 1908 when the patient was twelve years old, he had an in fection in the heel which necessitated operation for the removal of a sequestrum. He recovered sufficiently to serve through the war. In 1931 the con dition recurred and a small piece of bone was discharged spontaneously Physical examination a few months later disclosed swelling and tenderness of the heel. Motion in the toes was normal, but subastraga lold and ankle movements were painful. The tempera ture was 37 3 degrees C Roentgen ray examination showed irregular areas of decreased and increased density in the os calcis and astragalus and subastragalold and calcaneocubold ankylosis. The thick yellow pus evacuated at operation was found on mi croscopic examination and culture to contain the granules of sporotrichosis. The patient recovered in three weeks sufficiently to resume his work.

The second case was that of a woman of thirty two venra who complained of pain and aching in the thigh which had gradually increased until she was unable to walk. Roentgen ray examination revealed an oval area near the lesser trochanter which looked like a bone cyst with more dense bone around its borders. At operation this cavity was found filled with débris. There was no free pus. Curettage disclosed the organisms of sporotrichosis. After about

three weeks the patient was able to walk without difficulty

In both of these cases 6 gm of potassium iodide WILLIAM ARTHUR CLARK M D were given daily

MRch, H and Burman M S: Snapping Scapula and Humerus Varus. A Report of Six Cases. Arch Surg 1933 XXVI 570

Milch and Burman review the literature on anapping shoulder discuss its mechanism and report six cases They state that friction sounds in the region of the scapula may be due to irregularities of the scapula or chest wall, changes in the musculature or changes in burse present at this site Only con servative treatment is required as a rule but the authors recommend surgical removal of bony prom inences if such appear to be the underlying cause

Attention is called to the peculiar conformation of the head of the humerus noted in one of the authors cases a condition described by Reidenger as hu merus varus. This causes no symptoms, limitation of movement, or discrepancy in the relative length of the arm, and requires no treatment. It is an in teresting roentgen ray finding which is most easily identified in roentgenograms taken with the arm externally rotated and somewhat abducted.

PAUL C COLONNA, M.D.

Satta F: Tuberculous of the Wrist (La tuberculose du polonet) Res d'arthop., 1932 xxxlx 600

Tuberculous arthritis of the wrist has an unfavor able prognosis because of the multiplicity of the joint surfaces the tendency of the disease to spread to all of these surfaces the danger of deatricial adhe sions in the tendons and the frequent association of the condition with tuberculosis of the lungs.

The aims of treatment are the preservation of as much function as possible in the fingers and the production of total or partial ankyloids in the carpus. Conservative methods are preferred to surgical in tervention. Radiotherapy combined with heliotherapy seems to be of greatest value. Heliother apy should be general and radiotherapy should be applied locally with ionization by electrodes. To insure immobilization a simple splint should be applied. Any deformity present should be corrected slowly by elastic traction. Great care should be exercised to preserve motion in the fingers. The wrist may be allowed to become completely anky losed in all of its joints as well as with the radius and metacarpals. Even when this occurs function in the hand will be fairly good if the finger joints are not permitted to get stiff

In cases of very extensive lesions which have per sisted for a long time surgery may be necessary operation of choice is resection of the entire carpus. but because of the relative lengthening of the ten dons and the adhesions which may form around them, this operation is rarely followed by good finger function. In extreme cases with progressive necrosis and systemic retrogression amputation

may be required.

The authors report eight cases in detail and give statistics based on fifty-four cases. A cure was obtained in 50 8 per cent and improvement in 42 1 per cent. In 7.02 per cent the condition remained unchanged.

Petter C. K.: Methods of Measuring the Pressure of the Intervertebral Disk. J. Bess & Joint Sect. 1023 3V 267

When a block of two or more vertebre of the spines of pensons dving from tuberculous was measured, its length was found increased after its separation from the remainder of the spine. Still greater lengthening occurred after section of the periphery of the annulus fibrosus of the interverte brail disks. These changes demonstrated an expansion of the disks after their removal from the body By measurement the expansion was found to be 168 mm. The pressure required to reduce this expansion averaged 9.05 fb. CEMBERS COVALID.

Lucca, E. Contribution to the Study of Oeteomyelitis of the Vertebras (Contribute allo studio dell osteomielite vertebrase) Cli chir 1933 ix,

The author reports a case of ostcompellis of the fourth lumbar vertebrs and reviews the etfology pethology symptoms and treatment of the condition. The patient was a girl fifteen pears of age who for three days prior to be a dunisation to the hospital, complained of a swelling in the lumbar para vertebral region. This area was dealeded and the patient was given supportive treatment, but death occurred five days after the onset of the symptoms.

Postmortem estimation revealed an anote osteomyethic of the fourth lumber vertices with infiltration of the periodrum and of the superior intervertebral disk. The push and entered the aginal can libe dark matter was hypermic. Longitudinal section of the vertebra showed destruction of all of the spongy bone except as this layer adjacent to the articulating surfaces. The pus yielded a pure culture of the staphylococcus albus. Perma A. Rose, MD

Benoîste-Pilioire C. and Gourdon R.: A New Case of Verrebral Osteochoodritis in a Chillia (Un nor can can do osteochoodrite vérichezale infantile) Ball as the Sec de C serjeau d Per 1935, voy 68.

The authors report fase of vertebra plans to the vertebra (hanges were observed in the e-fy stages of the disease. The patient a boy four fear old, was first seen about two months after the partial of the back and the parents noted that in picking to bijects from the ground bestooped rather than bent pyer. For the eight days preced in general months of the parents
rainer than bent to pain had been severe.

On physical ear hination the child was found to be in fair general co. ilition and large for his aga. The back was rigid because of muscle spasm, and the silghtest movement caused severe pain. There was

neither a gibbus nor an abscess. The lower extremities were hyperwesthetic. The temperature varied between no and 100.0 degrees F

Under treatment by continuous extension, the spine gradually became painless and freely movable.
Complete recovery resulted in ten months.

The first rocatgenogram revealed a flattening of the first lumbar vertebra of about 50 per cent and a massive decadefication. Seventeen months later the vertebra had become reduced to a dense lamella 2 mm. thick anteriorly and 4 mm. thick posteriorly There appeared to be a slight anteroposterior ecogation. The adjacent intervertebral cartifages appeared somewhat thickees and presented a lami nated aspect. The model of the cartifage were more dense than normal. Subsequent recentgenograms aboved recalclication and an increase in the height of the vertebra. At no time was there evidence of an

The authors believe that the clinical and roest genological aspect of vertebra plana can be produced by a variety of pathodical processes, but that in the case reported the cause was a low-grade osteomyellis. Armer F DeGroov M.D.

Paviovski A. J. and Fitta, M.: Metastatic Canter of the Vertebras (Cancer metastatics vertebral) Res de ories v. ira. maiol. 103, 11 Avi.

In discussing the differentiation of metastatic carcinoms from other diseases of the spinal column, chiefly Post a disease, the authors report four cases of the former condition, supplementing the case histories with reconstructure.

In vertebral carcinoms the affected vertebre are fattened and the bone structure is destroyed while the intervertebral draks remain unaffected. In Port a disease, which affects cartilage there are early featons of the intervertebral disks. The disks become progressively thinner and finally disappear entirely. Sometimes a vertebral metastasia, either because it is particularly milignant or because it is implanted near the pedicle destroys the body of the vertebra partially without greatly flattening it and invades the soft parts early or invades the vertebral canal, causing outly paraplepia. As a rule, however there is marked flattening of the vertebra before the development of paraplex?

It is important to make a roentgen examination of the rest of the skeleton particularly the flat bones and the ribs, as there may be metastatic ford which are silent clinically but of importance for confirmation of the disgnosis. APPLY GOSS MORGAN M.D.

Markelov N : Ostsochondritis Dissecuns (Osteochondritis dissecuns) New chir Arch., 1932 XXvd., 393-

According to its origin, esteechondritis dissecure belongs to the choodropathies of the type of Kochleir's discuss and Legg-Calve-Perthes discuss. It is due to a wedge-shaped necrosis of the epiphyses of the tubular bones or partial chondropathy of the articular surface resulting from a vascular embolism. Most frequently affected is the knee joint capecially its median femoral condyle. Next in order of in volvement are the elbow (head of the radius) hip shoulder sukle, and the smaller articulations of the foot. Occasionally both of the articular bones of the knee joint or even both knees are affected. The condition is most common between the sixteenth and twenty-fourth years of age but has been known to occur as early as the minth year and as late as the fiftieth year.

Osteochondritis dissecans may present two stages. The first stage which lasts about two years is characterized pathologico-anatomically by sequestrum formation and separation. When it involves the time it cause indefinite pain swelling of the joint and limping. The second stage is characterized by the formation of a free joint body, a bone niche from which the joint body fell out attacks of severe pain disturbances of motility so-called locking of the joint body and chronic arthritis without very pro-

nounced intervening symptoms.

A correct disgnosis can be made in both stages by nentgenography. In the first stage of unvolvement of the knee there is found at a typical site the median condyle of the femur a usually wedge shaped or crucial a sharply outlined focus of rarefaction in the bone substance (niche) in which lies a sequestrum In the second stage the bone niche is empty and the sequestrum is found in the joint cavity in the differential diagnosis it is necessary to rule out injuries of the internal meniscus, chrondromatosis chronic traumatic synovids incarceration of the os fabella or other accessory joint bones traumatic intra-articular free bodies and true arthritis de formans.

In the first stage conservative physical therapy may be beneficial. In the second stage operative removal of the free joint body is indicated. Some surgeons favor operative treatment in the first stage but this requires accurate reentgenological localisation of the necrosed focus as the normal looking articular cartilage cannot be differentiated from the bone defect covered by it or from the sequestrum lying in the defect by either inspection or paipstion. Operative treatment in the first stage may be tech

nically very difficult.

The authors material consisted of thurteen knee joints (ten with involvement of the median articular bonns—in one of which the involvement was symmetrical—and three with involvement of the lateral condyles) and five elbow joints (three with involvement of the eminentla capitis and two with involvement of the head of the radius in one of which the involvement was symmetrical.

G ALIPOY (Z)

Bado J L., Rolfi D V and Sofforz E. V : So-Called Cyst of the Mentacus of the Knee (Sobre el llamado quitat del mentaco de la rodilla) Rev de ertep y traumatol., 1932 il., 202

Cvats of the meniscus of the knee joint were first described by Ebner in 1904. The authors report two

cases and describe the histological findings in detail with the aid of photomicrographs. About seventy cases are on record The majority of the subjects were males between fifteen and thirty years of age The youngest patient was eight years old, and the oldest saty years

The cysts generally reach their maximum size in a short time and then remain stationary. They are generally on the external surface of the meniscus. The swelling is seen most frequently in the joint interline in front of the insertion of the tendon of the bloeps, between the latter and the external margin of the patellar tendon. However it may portrude at the posterior border of the biceps and suggest a posterior hernia of the synovial membrane of the joint or a cyst of the upper tibiofibular joint. As a rule the size of the cyst decreases on fiexion and increases on extension but occasionally it is more marked in feerion than extension.

There is pain in the joint but it is generally not intense. Extension and flexion are limited and in some cases blocking of the joint occurs. Sometimes there is slight atrophy of the muscles of the thigh or leg. The diagnosis is not difficult if the condition is borne in mind

The best treatment is surgical removal of the menseus. Some surgeons have removed only the cyst, but in most of the cases in which this has been done a recurrence has developed.

In about 50 per cent of the cases the immediate cause of the development of the crysta is trauma. The ultimate cause is degeneration of fibrocartilage probably brought about by circulatory disturbances. AUDENT COS MONAM M.D.

AUDIET GOSS STORMAN BI D

Krida, A.; Intermittent Hydrarthrosis of the Knee Joint A Report of 2 Cases Apparently Cured by Synovectomy Together with the Pathological Findings. J Bone & Joint Surg. 1033 X 440

Intermittent hydrarthrosis is described as a chronic condition in which there are repeated joint effusions of several days duration which are refractory to salleylates, unaccompanied by pronounced manifestions of infiammation, cardiac disease or joint deterioration and recurring usually at regular in tervals. The first case was reported by Pernn in 1845. In 1026 Schlesinger found about 100 cases in the literature. Among the factors in the causation of the condition are traums, infectious arthritis mensituation pregnancy and allergy. Regardless of the type of treatment the prognosia is not good of the type of treatment the prognosia is not good

In 1 of the 2 cases reported by the author the condition was of seven months duration and in the other of six years duration. In each a synovectomy was done. In 1 there had been no recurrence of symptoms one year sifer the operation and in the other there had been no recurrence eight months after the operation.

The article contains several photomicrographs of sections of the resected synovial membrane.

ARTHUR H WEILAND M D

Santi E.: Osteomyelitie of the Fibula (Le osteomiclite del perone) Giz. chir., 1933 iz, 188.

Santi reports a series of twenty-nine cases of outgomyelitis of the fibula from the Surgical Pediatric Clinic of Forence and reviews the ethology pathology, symptoms, and diagnosis. Ostcomyelitis of the fibula was found in 8.5 per cent of the total number of cases of ostcomyelitis. This is a higher incidence than has been reported by others.

In Santi's opinion, opening of the medullary casal is necessary only in the hyperacute cases associated with septicemia. In the scarce cases without septicemia incision of the soft parts is sufficient. Sequetectiony is indicated when complete demarkation of the dead bone has occurred and the patient's condition will permit it. Parts A. Row M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Milici, A: The Treatment of Volkmann s Ischemic Paralysis by Elastic Traction A Report of Sevan Cases. J Bons & Joint Surg 933 xv 5 6

In the treatment of Volkmann's bethemic paralysis by elastic traction, Millid applies the traction by means of Japanese finger traps. The splint's devend to produce the initial traction with the wrist in faction. When the fingers reach complete extension in this position the wrist is gradually extended by the adjustment of a hinge until even traslly complete extension and then densification of the wrist is attained. When the corrected position is obtained the band and fingers are immobilized for from four to aix weeks.

Milici believes that all cases of Volkmanna lechemic paralysis, regardless of the duration or severity of the condition can be benefited by this method of treatment. Astron H. William M.D.

Carnera U: Thirty-Two Cases of Orthopedic Shortening of the Normal Leg (3 casi di accociamento dell'arto inferiore mno a scope octopedico) Chir d'argani di merimente 1933 vvil, 309.

In 1928 the author reported four cases in which he and successfully shortened the normal leg instead of lengthening the abnormal leg in the treatment of various types of shortening. He has since improved the procedure and now coocludes from his superhence that it is in general better than the methods which involve traction on the short leg. His operation has three indications (1) irreducible congenital dislocation ducknown of irreducible congenital dislocation for paralysis (eight of his cases) (2) sequele of laft discussion (1) sequele of high discuss (seven of his cases). The operation is done only when there is shortening of at least 6 cm. The amount of shortening is determined by carried measurements.

The normal leg is first enclosed in a cast applied from the waist to the sole of the foot Resection of the femur is then done through a window in the cast, the amount of bone removed corresponding to the amount of shortening desired. The operative technique is shown by illustrations.

After the operation the leg is immobilized usually for fifty days, the patient is given a high-calcium diet, and the status of the operative field is checked up by frequent roontgeoograms.

The results in the author's thirty-two cases were very satisfactory Non-union and infection are uncommon. Summer T Lampy M.D.

FRACTURES AND DISLOCATIONS

Putti, V: Analyses of the Roentgen Symptom Triad of Predislocation States (Assiti deletriade radoutnomatics degli stati di prehassatione) Chie di organ di moviment 1032 xvii, 433.

Putil stresses the importance of early roentgensy signs in the diagnosis of congenital dislocations and reports the results of studies which be made of roentgenograms of normal infants and infants developing dislocations in an attempt to descover signs of predialocation states. The following three important changes were noted

I Abnormal obliquity of the roof of the acetabulum. In roentgenograms of infants from twelve hours to eight days of age, Putti distinguished three types of acetabulum, which he designates as Types A B and C Type A, in which the shadow of the roof approximated the horizontal, was seen in 57 per cent of the males and 35 per cent of the females. Type B in which the line of the roof was more inclined yet formed an obtuse angle with the lateral side of the als of the illum, was seen in a7 per cent of the males and 45 per cent of the females Type C, in which the line of the roof was so inclined as to be almost a continuation of the lateral side of the ala of the ilium, forming only a very slight angle, was seen in a s per cent of the males and 15 per cent of the females. While the importance of the degree of obliquity is relative it seems that the more oblique the line of the roof the greater the likelihood of dislocation. The greater frequency of the more oblique roof in the female is in accord with the greater incidence of congenital dislocation in the female. The changes described may be noted at birth.

2 Retardation of the appearance and hypoplain of the femoral epiphvals. These signs may be detected only after from three to four months of life. However, they are easily detected. As an example of such changes Puttl cites the so-called obsertical traums of the shoolder in which there is deformation of the glenoid cavity with hypoplasis of the humeral epiphysis. If this may be compared with the hip joint the likelihood of a traumatic cause for the dislocation is more probable.

3. Ectopic position of the upper end of the femur In the normal, a horizontal line along the upper ends of the femora passes through the inferior quadrants of the acetabula and the vertical line extended upward from the inner edge of the femur bisects the

roof of the acetabulum. Variations may be noted by the twentieth day A. Louis Rosz, M.D. Radulesco A. D. and Susan, B. Periosteal Dysplania (Sur la dysplanie périostale) Res d'orthop 1032 XI. 5

According to Policard the normal growth of bone both in length and width is dependent entirely on the periosteum and the epiphyseal cartilages have nothing to do with it. In support of this theory are the facts that some vertebrates have no enlphyseal cartilage yet their bones grow in length and some bones such as the clavide and the cranial bones,

develop from connective timue only

Periosteal dysplasia is characterized by brittle ness of the bones and frequent fractures before as well as after birth. As maturity is approached, the symptoms disappear The condition was first de-scribed by Eckmann in 1788 In 1849 Vrolik designated it by the term osteogenesis imperfects In 1805 Lobstein called it osteopsathyroda, and eight years later Gurlt referred to it as fragilitas omium. The authors suggest calling it periosteal dysplasus until its cause is known definitely

In many cases herethty has been recognized as a definite factor in the development of the condition. Absence or poor function of the osteoblasts has been assumed to be a cause. By some the condition has been attributed to poor circulation in the marrow chronic alcoholism in the parents, or syphilis but the cases cited in support of these theories have been few Observations made with regard to endocrine disturbances have led to no definite con-

dusions.

Infants with the intra utenne form of the disease are usually stillborn or born prematurely. In those who live there are evidences of malnutrition. The eyes and chin are prominent, the nose is thin and the skull is increased in the bitemporal diameter The postnatal form of the condition is often not recognized until fractures occur which may be as early as the eighteenth month of life. The frequency of fractures diminishes as the child grows older While the condition may involve any bone, it affects most frequently the femur and leg bones. The symptoms and displacement associated with the fractures are never so pronounced as those of fractures of normal bones. There may be very little pain and swelling. In a case reported by Porak and Durante 250 fractures occurred Many of the fractures may be alight and demonstrable only by roentgen ray examination. The gray blue color of the sclere of children with periosteal dysplana may be due to the color of the chorord pigment showing through an abnormally transparent scierotic coat When fractures are so frequent that the child is kept off of his feet for a long time, the bones become osteoporotic and may present the picture of osteomalacia. The esteoporosis favors still more frequent fractures and deformities. Callus formation is always slow and at the site of fracture a sone of decalcification may persist for a long time

The long bones are usually increased in diameter the medullary canal being wider than normal with relation to the cortex. The short bones also show

thinning of the cortex. Ossification of the vertebra is usually much delayed and the pelvis is sometimes deformed. In many cases arteriosclerosis is found In the case of a baby three months old which was reported by Johansen, death resulted from cerebral

Microscopic examination shows the periosteum to contain more fibrous tissue and fewer ostcoblasts

than normal.

No treatment has been found of definite value Dietary treatment and the administration of cod liver oll and gland extracts have been tried. The fractures heal if they are given as much care as fractures of normal bones.

The authors report 3 cases. The first was that of a premature infant which had o fractures and died after a few days. The second was that of a child of five years who had 2 fractures in 1 femur 1 frac ture in the other femur and a fracture of the radius and ulna, which occurred at different times during a period of two years. The third case was that of an eight year-old child with a history of similar trouble in antecedents who sustained a fracture of 1 femur and I tibia from slight trauma and presented osteoporosis of the entire skeleton

WILLIAM ARTHUR CLARK, M.D.

Magnuson P B The Simplification of the Treat ment of Fractures Surg., Gynec & Obst 1933 lvi 483

In the treatment of fractures one must obtain first a mental nicture of the attachments of the muscles, the strength of the muscles, the angle at which the muscles pull, and the displacing effect of the muscles on the fracture and must next consider thoroughly the apparatus necessary for reduction and retention of the fracture. The treatment of fractures is based on one principle—traction bal anced by countertraction. As a rule traction is obtained best by the application of adhesive plaster to the skin in three-tailed strips. Efforts at reduc tion should be slow steady and prolonged. If conservative measures are unsuccessful, operative treatment should be given immediately

Transverse fractures of the arm may be reduced by means of a heavy muslin bandage looped around the patient s wrist or elbow and passed over the surgeon s shoulder the patient being secured to the table by a bandage placed around the chest under the axilla. The surgeon obtains counter traction by pressing his foot against the table

In fractures of the leg traction may be applied by placing a Collins hitch around the ankle, tying the ends of the bitch through the eye of a double pulley fastened under the sole of the foot, and join ing this pulley with a piece of rope to a double pulley attached to the foot of the table. Counter traction may be obtained by passing a sheet be tween the patient's thighs and tying it to the head of the table.

In cases of fracture of the leg or arm, traction must be maintained while the cast is applied with the limb in the horizontal position. In order to prevent angulation, support must be applied above and below and at the point of fracture. When a cast is applied for fracture of the forearm, traction may be made by placing loops around the fingers and attaching these loops to an over-head support.

In fraction of the space like invention may be obtained by placing a few turns of plaster bandage around the ankle over a beavy fell pad and bringing the plaster down over the ankle on the outside of the foot, under the tole and up toward the knew on the mner ide. An assurant grips the bandage rull in one hand and, while supporting the leg with the other, manutains, the knee in right angle fersion

supported against his chert.

In fractures in or near the knee joint the cast may be applied with the leg in full abduction. This makes it roussible to bring the cast uninto the gritted.

fold and against the lacking

In fractures of the surgical neck of the humerus, traction should be started with the arm in abduction of about 10 degrees, and the elbow should be gradually brought forward as the arm is abducted.

In fractures of the lower end of the humerus there is a tendency for the muscles attached to the lower end to displace the fragments in different directions. Traction is by far the most satisfactory method of reduction.

Fractures of the electron always require open reduction if the fragments are separated and the ligaments are torn. After operation, immobilization is unnecessary. Motion can be started within

twenty four hours, and union should be complete

The reduction of fractures of the forearm is best maintained by steady continuous traction. This may be obtained by means of an adhesive plaster cult placed around the wrist and fixed to horizontal strips of wood at the metacarpophalangeal joints. Countertraction may be obtained by placing a sand bag across the lower end of the humerus just above the efforw. Rotation of the radius is controlled by attaching a topic to the horizontal creasiars. More according to the foreign and controlled was attaching a topic to the horizontal creasiars. More around the control of the c

In fractures of the radius without fracture of the ultra, vemplete restoration of function require restoration of mention require restoration of the normal keight of the radius. The author supports the joint by placing thick fell pads laterally over the radius and ultra, allowing each of them to fold around the flerow and extensor surfaces. He then forces the pads toward each other by including them in a tightly strepped circular band of adhesive plastic.

The deformed of Collect fracture is backward. The deformed of Collect fracture is backward of the collect fracture in the restrict for the restrict fracture
SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Pistocchi, G t Knowledge Regarding the Carotid Sinus (Esperieme sal seno carotideo) Arch. ital Arch 1931, xxxiil, 60.

The experimental studies reported in this article were suggested by the observation of marked rapid alterations in the rate and type of the pulse and in the blood pressure occurring in the course of an operation for the removal of a neoplastic gland in the left side of the neck. The author presents a brief review of the literature on the carotid sinus up to the time of Hering. The importance of the carotid sinus is surgery is evidenced by the vasomotor phenomena produced by pressure upon the sinus the disturbances arising in it in surgery of the neck including thyroldectomy, and the effect upon it produced by pressure ou the magnifile during general anesthesia.

In animals under ether or chloroform anysthesia electrical stimulation of the carotid sinus resulted in a rather sharp drop in the blood pressure and a diminution of the heart rate which occurred in the fairly constant relationship of an eight to twelve drop in the rate to a 25-mm, drop in the pressure After the injection of large amounts of adrenalin the sinus seemed to be relatively inexcitable. In animals subjected to thyroid parathyroldectomy four days previously stimulation of the sinus caused immediate severe convulsions which stopped when the current was stopped. The effect on the heart rate and blood pressure in these animals was slower and less marked than in normal animals. In animals in which hyperthyroldism had been produced by feed ing dried theroid substance, stimulation of the sinus resulted in a sudden drop in the pulse rate and blood pressure which was more rapid and profound than in normal animals. After prolonged stimulation the pulse became approximately normal, but the blood pressure remained low

The author suggests that hyperexcitability of the carotid sinus may explain some of the sudden deaths during thyroidectomy

The cause of phenomena discussed has not been determined with certainty, but is probably a refex action through the medulary centers acting upon the capillaries.

A Louis Ross, M.D.

Moszkowicz, L.: Surgical Occiosion Treatment of Various Veins (Chirarysche Veroedungsbehand lung der Krampfadera) Zeniralli f Chir., 19,8 p. 2753

In spite of the fact that in the fast few years the injection method of treating vancose yeins has been gradually replacing the surgical method there are still a number of cases in which injection is not suit able. According to the author it is particularly the

widely dilated venous plexus with many anastomoses to the deep veins which resusts the injection treat ment. For these Moszkowicz recommends the combination of vein resection and obliteration treat ment which he proposed in 1927. This treatment has the great advantage that it can be carried out on ambulatory patients. The old Trendelenburg has tion of the saphenous vein at its entrance into the femoral vein which has a mortality of r per cent in most performed. Instead the dilated veins them selves are ligated centrally and are obliterated in their peripheral parts by an injection of from 10 to 40 c.c.m of glucose solution.

In the course of five years 400 limbs were treated by this method with good results. As recurrences occasionally developed, the author modified the technique to include the bration of as many of the branches of the varicose vein as possible. Through a 4 or 5-cm incision a segment of vein twice thus length is resected. In order to prevent thrombosis central to the proximal ligature the central end of the vein is not pulled out. It is isolated very carefully and without dissection and the ligature is carefully placed around it with an anatomical for ceps. Since the adoption of this careful treatment of the adventitia and intima central thrombous has no longer been observed. The peripheral end of the vein can be handled more firmly. By ligation of all of the branches as long a segment of vein as possible is freed. At the lower end it is incused and from 30 to so c.cm. of plucose solution are injected through a blunt cannula The resection is then carried distal ward as far as possible. When there is a long vari cose vein of the thigh with a deep branch from the plexus at the knee the vein is ligated above and again at the upper part of the knee. It is then resected and the glucose solution injected. Even after such a double procedure the patient can go bome directly Patients engaged in heavy labor are obliged to interrupt their work for only eight or ten days. They should not lie in bed but should walk around quietly in the room because stagnation of blood favors thrombosis and embolism.

The ambulatory treatment replaces completely the old extensive resections and cures even severe cases. Operative treatment seems indicated only for tumor like dilatations of the veins, chronic recurrent thrombophilebitis and patients who refuse the injection method. Sazmuso (2)

Mason, J. M.: Extreme Cardiac Decompensation Following a Traumatic Arteriorenous Flatula of the Left Subclavian Vessels. Am. J. Surg., 1933. 33, 452

It has been definitely established that, in addition to local and peripheral symptoms arteriovenous aneurisms of the larger blood vessels are often assoclated with pronounced cardiovascular changes.

The latter may include dilatation and hypertrophy of the heart, acceleration of the pulse, a low disstolic pressure a high pulse pressure, a fall in the pulse rate and a rise in the blood pressure following temporary occlusion of the fistula cardiac murmurs, dilatation of the artery proximal to the fistula, and a condition simulating aortic insufficiency

According to Matas, the cardiovascular effects are determined or influenced by (1) the size of the fistula. (2) the volume and force of the arterial stream that is shortcircuited into the communicat ing vein, (*) the caliber of the vessels involved (4) the proximity of the involved vessels to the heart and (c) antecedent cardiovascular disease.

The author reports the case of a woman who developed an arteriovenous fistula between the left subclavian artery and vein as the result of a stab wound in the left chest. The extreme degree of car diac decompensation which rapidly followed the formation of the fistule was arrested by ligation and excision of the vessels entering into the formation of the fistula. Following ligation of the subcla tan artery in its first and third portions, ligation of the subclavian, internal jugular and left innominate veins, and excision of the included sections of these vessels together with the fistula, the signs of broken compensation disappeared, the quality of the pulse improved, and the blood pressure rose to a more normal level. The patient has been able to resume her household duties and is steadily improving. The heart, though well compensating has sustained damage which will probably be permanent.

Fifty-nine collected cases of arteriovenous aneurisms of the subclavian vessels are reviewed. Of the twenty-seven cases which were treated surgically a cure was obtained in twenty improvement in two, and no improvement in two. Three of the surgically treated patients died the mortality being therefore II I per cent. Of the thirty two cases in which operation was not performed, a spontaneous cure occurred in two and death in a (6 a per cent) The incidence of improvement and lack of improvement in the others could not be ascertained.

NORMAN C BULLOCK, M.D.

BLOOD: TRANSFUSION

Benhamou, E., and Nouchy A.: Massive Auto-Agglutination of the Esythrocytes Preceded and Followed by Massive Auto-Agglutination of the Platelets (Grande auto-aggistination des hématics précédés et suivio de grande auto-aggistination des plaquettes) Preise mid Par 913, zil,

Manive auto-agglutination of the crythrocytes is rare. Recently Aubertin, Rist, and Debenedetti have reported cases and reviewed the literature.

The authors report a case in which there occurred not only a massive auto-agglutination of the crythrocytes, but also a massive auto-agglutination of the

platelets. The patient was a woman thirty years of age who was admitted to the hospital for treatment of a painful aplenomegaly. Her family history was negative. She had had febrile attacks during in fancy, but no recent attack of malaria and no other infectious diseases. She had borne two children and was in good health until two years before her admission to the hospital, when her solven began to enlarge with increasing pain and she became very asthenic and pale

The anemia grew wome the number of platelets remained low the spicen became more painful and showed no reaction to adrenalin, and prolonged treatment with quinine proved meless. Solenectomy was therefore done. Fifteen days after the operation the patient developed an acute recurrence of malaria. Such recurrences are known to occur after splenectomy Examination of the blood revealed plasmodium vivax, and as the urea index remained below 0.50 the febrile attacks were permitted to develop. At first the attacks of fever occurred with increasing frequency but then began to subside. As auto-agglutination of the erythrocytes took place after the beginning of improvement and the establishment of spontaneous immunity tolerance, massive auto-agglutination of the erythrocytes can

not be considered of prognostic value. This case was the first in which the authors observed a massive auto-agglutination of the platelets. Agglutination is a natural property of the platelets, but in the diluting fluids commonly employed (\an Herwerden solution, Achard and Avnaud solution) the platelets remain separate and can be counted. While the occurrence of auto-agglutination of the platelets was not mentioned in previous reports of cases of massive auto-agglutination of the crythrocytes, the authors believe it is the rule in such cases. However they call attention to the fact that in the case they report the agglutining of the blood affected the platelets before they affected the erythrocytes and at a time when the erythrocytes could still be counted Sufficient agglutining remained in the blood to hinder the count of the erythrocytes for several days.

Auto-agglutination of the envilrocytes has been observed in three large disease groups (1) the cir rhoses, (1) acquired hemolytic jaundice, and (3) the trypanosomiases. The authors case shows that It may render a count of the erythrocytes impossible also in malaria. The diversity of conditions in which it may occur robe it of diagnostic value.

By some, massive auto-agglutination of the crythrocytes has been regarded as indicating a poor prognosh. However, others have noted the phenomenon in conditions of no serious import, such as senile pruritus, chlorosis, and chronic bronchitis.

Temperature plays an important role in the production of the phenomenon of auto-agglutination of the erythrocytes. The agglutination is very marked at a temperature between 12 and 14 degrees C, and persists at 37 degrees, but disappears at a temperature between 40 and 45 degrees. Therefore in cases of messive auto-agglutination of the crythrocytes one needs only to heat the specimen in order to be able to count the crythrocytes. Yorke insisted on the reversibility of the phenomenon of agglutination claiming that it disappeared at 37 degrees and re appeared at odegrees. In the authors case the auto-agglutination of the crythrocytes after having disappeared at 45 degrees, did not re appear at 12 degrees. A fact showing that agglutinians are always present in the plasma was that, even by raising the temperature to 55 degrees, it was found impossible to make the massive auto-agglutination of the platelets disappear.

Auto-agglutination of the erythrocytes is not always associated with extreme anæmia.

A search for harmolysins in the authors case was negative.

Splenectomy does not seem to play a part in the production of the phenomenon, as Sato reports a case in which auto-agglutination disappeared after splenectomy

In the interpretation of the phenomenon of agglu tination two factors which appear related to each

other seem of significance, viz. (1) disequilibrium of the blood allumins with lowering of the serum albumin (from 35 to 18 mgm per 100 c.cm) and of the ratio of serum albumin to serum globulin (from 1 to 50) and (2) a positive formol fixation reaction at the end of two hours. It is well known that such a disequilibrium of the albumins and formol firstion of the serum occur in the trypanosomiases in which auto-agglutination of the erythrocytes is common Accordingly the suggestion is made that the latter like the two other phenomena, is a reaction to infection.

Massive auto-agglutination of the crythrocytes and of the platelets presents a problem of immediate practical interest when blood transfusion is considered. In Aubertin s case, the serum of the patient agglutinated the crythrocytes of different blood groups, rendering transfusion impossible. In the authors case the serum of the patient did not agglutinate the crythrocytes of the various blood groups. The patient belonged to Group III and therefore could be transfused safely with blood belonging to Group III or IV EDTH S MOORE.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE

Demel, R.: The More Conservative Endeavors in Modern Surgery Schonenders Bestrebungen in der modernen Chirurgie) Wein. II Weinstele. 1937 P., 309

In recent times attempts are being made to replace the more or less radical methods of surgery with more conservative procedures. The author

cites numerous examples.

Even in the choice of the anenthetic, not only is the organism spared as much as possible, but even the practice of the patient is taken into consideration. This explains the frequent choice of nitrou oxide ament be used. In cases is which citizons oxide alone is not sufficient to induce anesthesis of sufficient to the contract of the contract of the contract of depth the otherwise necessary addition of either is avoided by supplementing the introcs oxide anesthesis, with local anexthesis.

In order to decrease the uniavorable effects of operations, pre-operative blood transfersions are given to aniemic and weakened patients and also to patients who are to be subjected to an operation

which will cause a large loss of blood.

In the field of malignant tumors operation is now often avoided by the use of radium and roentgen irradiation. This is true in cases of cardinoma of the skin, irps, tongue, larynx, and tonsils.

In the surgery of Basedow's disease the results have been unproved by giving the patient preoperative treatment with Logol's solution, as recom-

mended by Plummer

In the surgery of bram tumors a conservative procedure of another nort was elaborated by Cushing Cushing observed that many brain tumors grow very alonly and reman tuclosed in their capale for a long time. Therefore he does not insist upon the complete removal of such tumors, but undertakes their extinguishing gradually and under certain conditions of the another health of the contraction o

In the treatment of tripeminal neuralgia the insection of alcohol seems to be associated with less immediate danger and a much lower mortality than extrepation of the gasserian ganglion, which has a mortality of 11 per cent even when done by Krause.

Also in the treatment of furundle and carbundle conservative treatment is acquiring more adherents. Operation is regarded as indicated only in case with increasing infiltration into adjacent tissues and ag

gravation of the general condition.

In the operative treatment of empyema of the pleura, radical methods are being discarded in favor of more conservative procedures (closed drainage) In deartical stenois of the esoplayes the autotorace cosphappointy has almost never been carried out once Lobelmen was tall to abor by means of the Berlin-bler reactions that a large minber of the stenois onsidered impermeable were permeable and could be dilated much more conservatively and with less danger by means of borners.

In biliary surgery it appears that cholecystostomy and the ideal cholecystotomy are being performed more frements; than formerly lestered of chole

more frequ

cystication? The high mortality of the surgical treatment of some patterns titls has in recent times led to expect and treatment. Moreover in operating your cases of the patterns of the surgice has become conservative treatment of the patterns of the patterns has been conservative even into the partnerships of the patterns has been discontinued because of the danger of hemorrhage and secondary hemorrhage.

The fact that in pneumococcus peritonitis it is impossible to eliminate the source of the infection has also led to conservative treatment, in contrast to the treatment of the other forms of peritonitis.

In enteroptous the limitation of operative procedures in recent times has been especially marked. The operations for chronic obstitution, which are associated with a high mortality have also been disappounting and have given way to more conservative treatment.

In tuberculosis of the testis and the epididymis semicastration is not done as often as formerly

Of the numerous operative procedures for the treatment of arccocele, the majority have lost

considerably in importance

In the treatment of variconties of the lower extremities, operative treatment has become limited

more and more and in its place injection treatment has been given wider application.

In the various diseases and injuries of the booss and joints conservative treatment has become in-

and counts conservative treatment has become increasingly popular. The older chiefly operative treatment of tuberculosis of the bones and joints has been considerably limited and has been replaced by heliotherapy.

Also in the treatment of fractures there is notice also increasing limitation of the open methods of the animersamp limitation of the open methods of treatment. This is due to the improved procedures of extension treatment and the better primary reposition of fragments obtained by means of new appearance.

In some pseudarthrones bony consolidation can be obtained by the boring method of Beck with avoidance of a major operation.

The use of the permanent water bed in surgical diseases is a great advantage, as decubitus and extensive phlegmonous processes frequently heal without operation when such a bed is used. Aside from the fact that some intestinal fistulæ close spontaneously under the influence of the water bed, operative clos ure of intestinal fistule is less dangerous after the use of the water bed than operative closure without previous use of the water bed

The author shows that the problem of modern surgery consists not only in opening up new fields of operative surgery but also in aiming to use more M Hinnen (7)

conservative procedures

The Behavior of the Blood Platelets in Gucel, G Certain Surgical Conditions (11 comportamento delle plasteine in alcune maiattie chirurgiche) Policifa Rome, 1933 al res chir 141

Although the blood platelets were first described as long ago as 1844 relatively few studies have been made of them. As their number varies considerably under normal conditions, their variations under pathological conditions are difficult to evaluate. A study of them is rendered difficult also because they are fragile and difficult to stain and they agglutinate readily

The author reports studies of the platelets which he made in various acute and chronic infections traumatic lesions, and tumors and in experiments on guinea pigs and rabbits. The platelets were in creased in infections but decreased in severe sensis. In general, their curve followed that of the leucocytes, but when an infection became worse the platelets decreased.

Guon concludes that the platelet curve is an accurate index of the prognosis in many surgical conditions. LOCKER T LEDDY MD

Kirschner: The Transplantation of Epidermia (Ueber Epidermisverpflanzung) Acta chirurg Scand., 1912 lexii. 21

In the transplantation of epidermis it is better for cosmetic reasons to use one large flap than several smaller pieces. In the use of Thiersch grafts there is a constantly increasing demand for greater thickness length and width of the grafts.

The author's epidermia elevator is a modification of the Schepelmann scalpel. The modification consisted in diminishing the angle of the scalpel to the skin surface To stretch the skin of the thigh in a transverse direction successfully. Kirschner has devised an apparatus with which the stretched skin forms a wide plane and the point of attack on the skin lies below rather than above its normal level so that the cutting process is not hindered

At a distance of from 10 to 15 cm, apart which is somewhat wider than the proposed skin flap two steel rods with sharp points and removable handles are bored under the skin of the thigh in a dustal toproximal direction so that the ends protrude from the skin (Fig. 1) The knee is flexed and hangs over the edge of the table. On their sides the rods have slits into which fit the ends of four curved steel bri dles about to cm long Two of these bridles with

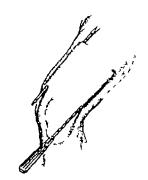


Fig. 1 Introduction of the steel rods to stretch the skin for the removal of Thiersch flaps

chains attached are fitted to the rods as shown in Fig 2 and the skin between the rods is markedly stretched by pulling on the chains Thiersch grafts of any length width and thickness may then be cut For the taking of homoplastic grafts from recently amputated extremities the author has devised a board (Fig. 3) which is based on the same principle of skin tension and fixation.

The skin should be rubbed with phymological salt solution but as the danger of injection is not great no disniectant should be applied to it.



Fig. 2 Application of the steel bridles and chains to stretch the skin for the removal of Thierach flane.

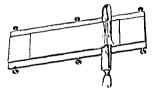


Fig. 3. Board to stretch the removed skin for the re-

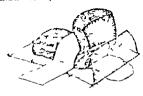


Fig. 4. Rabber sponge pressure dressing for Thierach transplants

The less the friction with which the scalpel glides over the skin the easier the flaps are cut. For moistening olive oil is preferable to physiological sait solution as it prevents drying of the transplant.

The cutting of the epidermal flaps should be the last act of the operation. The area to be graited should be prepared first and the epidermal flaps then

applied immediately

There should be absolute hemostasis of the part treated. An excellent procedure for this purpose is electrocoagulation with a disthermy knife or needle. If this falls, the Thersch flaps should be perforated.

An excellent dressing for the wound is String sture fastened in place at the edges of the transplanted surface with martisol and setured to the skin edges by a few stitches. This prevents displacement of the transplant. The gauss should be resoured after from eight to ten days. Later the Thierach graft may be painted with air odl.

To pervent the accumulation of blood and tissue juices under the graft, elastic pressure abould be maintained by means of a rubber sponge that has been boiled in physiological saline solution and squeezed into dry towels. This should be applied to the game-covered transplant with disatoplast under slight tension. (Fig 4) Leons Nowari M.D.

Hunt E. L.: Postoperative Thromboels and Em-

bollern New Engl and J. Hed., 933, exviii, 730.

The author reviews the cases of thrombouls and embelsom which occurred in the City. Resulted of

empoism which occurred in the City Hospital of Wortester Massachusetts, in the past twelve years. Of the total number of deaths during this period, on per cent were from pulmonary embelsion.

o o per cent were from pulmonary embolism.
Of the patients operated on o.48 per cent de veloped thrombotic complications and o ye per cent

veloped thrombotic complications and o.11 per cent died of pulmonary embolism Of the total of 137 cases of thrombosis, 43 were

Of the total of 137 cases of thrombosis, 43 were medical cases and the remainder were surgical, obstetrical or transmate.

Influenza epidemics had no definite influence on the incidence of thrombosis although the yearly is eldence of the condition was quite variable. Twice as many females as males were affected. The great est number of thromboses occurred after abdominal occurring.

The number of infections associated with throm-

bods was surprisingly low

Precautions which may tend to decrease the danger of the liberation of clot-producing substances and hence the danger of thrombosis and embolism are The avoidance of trauma to the deep cogniti-

tric vessels in making upper or lower rectus incinions.

2 The control of bleeding by isolated ligation rather than over-and-over source, and care to avoid transfaxion of veins when work is being done in the

vicinity of the broad ligament.

The avoidance of traums to vessels (especially

the vens cava) by deep retractor blades.
4. Careful ligation of all veins to prevent throm-

bogenic tissue fuices from entering them and start ing a clot.

5. Careful suturing of the tissues with minimal

burying of suture material.

6 Proximal ligation as the first step in operations

on variouse veins.

Among the factors of importance in the causation

of thrombosis are
1 An increased tendency toward blood clotting
2 Blood staris from slowing of the stream, de-

pressed circulation, or lowered metabolism.

3 The influence of cardiovascular diseases.

4. Infection

À high protein diet increases the clotting power of the blood. In most cases of thrombouls the dotting index is high. Sodium thioralphate solution given intravenously has a restraining effect upon the clevation of the index and has been used to prevent thromboals.

The prevention of blood states by the avoidance of overextension of the legs in the Trendelenbertz position, by systematic exercises of the legs after operation, and by the avoidance of tight binders and dressings will aid in decreasing the incidence of thrombods. Thyroid extract has been given to increase the circulation.

Wound infections do not occur in all cases of thrombouls, but organisms are present in every operative wound even when no gross evidence of infection is present. Such "occult" infections may account for certain processes remote from the wound, of which thromboses may be an example.

In 1927 Rosenow reported the isolation of a diplostreptococcus from emboli in 6 cases of fatal pulmonary embolism. Pure cultures of this organism in jected into dogs and rabbats produced thromboses and in 2 dogs caused pulmonary emboli.

From a study of the cases on which this discussion is based it is apparent that while embolism cannot be wholly prevented there is hope of decreasing its fre quency and avoiding a fatal outcome by greater alertness with regard to the premonitory sizes and the efficient use of such methods of control as are now available.

It is most important to recognize peripheral thrombosis as soon as it occurs. Routine measure ments and examinations should be carried out before the patient is allowed to get out of bed to be certain that thrombosis has not been overlooked.

The treatment of thromboses has been rest and quiet—a period of at least aix weeks of complete rest with special nursing care to prevent movement. A diet with a low residue should be given to decrease the use of the bedpen. The leg should be rested on a pillow and covered by a cage containing electric bulbs for warmth. A sudden decrease in the swelling and improvement in the color are to be regarded with suspicion as they may mean that the clot has become loosened and is on its way to the heart.

In an embolic crisis the patient is quieted with morphine and given oxygen. Sodium thiosulphate has been used and deserves a wider trial.

The Trendelenburg operation is mentioned as a heroic measure for which one should always be prepared in the last moments of an otherwise fatal embolism.

MARY E. MARHER, M.D.

Coryllos, P N: The Etiology Prevention and Treatment of Postoperative Hæmorespiratory Complications in the Surgical Treatment of Tuberculoris. Endotrachesi Annesthesia Combined with Bronchial Suction (64 Cases, 152 Operations) J. Thoracic Surg. 1933 ft. 354.

In a search for an explanation of the complications which frequently follow operations on the chest, the author reviewed the various theories that have been advanced but found them somewhat madequate.

He discusses the pathological physiology of the lung and reports clinical and experimental findings based on 250 thoracoplastic operations performed on 133 tuberculous patients in 2 institutions in New York City which provide 2,000 beds for tuberculous patients.

The complications are shown to be the result of respiratory and circulatory deficiencies which produce an acute or prolonged deficiency of oxygen and carbon dioxide and lead to an anoxumic crisis and to death if afters are not taken to prevent it.

These deficiencies are the result of stasis of the bronchial secretions which are always present in the lung before operation, and especially of the secre

tions expressed during the operation by the collapse of the diseased lung

A pneumococcus, which is practically always present in the upper respiratory tract, infects the bron chial exudate increasing its viscosity and rendering it able to obstruct large as well as small bronchi.

The anoxemia is increased by a further decrease of the respiratory area by lobular lobar or massive at lectasis, the collapse of the thors opplasty itself or the development of areas of bronchopneumonia. The result is a rapid shallow respiration which again adds to the anoxemia and cause a massive elimina ton of the carbon dioxide producing acapnia. The acapnia further increases the anoxemia and brings about a loss of muscular tonus which leads to peripheral viascular fallure peripheral circulatory stasis a decrease in the venous return to the heart, a fall in the blood pressure the picture of shock and an anoxemic crists.

Deaths which have been attributed to heart fail ure cardiac dilatation, shock, or aspiration or tuberculous pneumona have been found in the last analysis to have been due to such an anoxemic crisis.

The treatment and prevention of these complica tions can be directed only at the origin of this chain of events namely the starts and infection of the bronchial secretions present in the lung especially in the diseased portion which is to be collapsed As the victous circle begins during the operation, the author has developed a method of inducing ances thesia which tends to eliminate the factors leading to anoxemia This consists of endotracheal insuf flation angesthesia combined with bronchial suction. Such an ansesthesia with the use of the authors special endotracheal tube introduced through a bronchoscope under local anæsthesia before the operation keeps the respiratory ways patent cuts off the communication between the upper and lower respiratory tracts, thus preventing the aspiration of infected material keeps the lung adequately ven tilated thereby preventing acapnia and allows re peated suction to eliminate bronchial secretions be fore, during and after the operation

The author compares 152 operations performed with intratracheal anesthesis and oß operations per formed with the ordinary mask anesthesis. The results so far have proved that the working hypothesis on which the author s study was based is sound as they have shown a definite increase in the number of good results and a similar decrease in the mortality following thoracoplastic operations.

MARY E. MATHER, M D

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Sirolli M The Pathology of Death from Electric ity (Sulla patologia della morte da elettricita) irch ital di chir., 1933 xxxiii 333

The author reviews the literature on the pathology of death from electricity and reports the results of an experimental study of the effects of varying amounts of electricity on rabbits.

The major portion of the report deals with the matornical and histological changes. Recopysy an ally revealed to characteristic changes. Frequent findings, however were a more or less general ized congestion with some hemorrhere, especially in the brute, liver and kidners. The blood tended to be more liquid than usual and dark and there was unruly some congolation in the right better than the change of the control of the c

In the heart, fragmentation of the myocardium was almost constant and pileation and undulation of the fibers, irregular veneditation of the protoplasm, and zones of orderna and interstitial hemortheres like those seen after death from anotheria

were common.

In the lungs, an emphysematous state was very evident. This was accompanied by hemoritagic foci congestion, rupture of blood vessels, contraction of the brouchieles, multiple emboli, scate rupture of the alveolar walls, and some descummation

of the bronchial mucosa.

Common flodings in the liver included changes due to remoss stads and perenchymal damage, dilatation of the central lobular veins, incernition of the parenchyma with food of infiltration and herm orthage changes in the cell outlines with some granulation basophilla, and vencolization, especially in the region of the central veins and some sensation of the mucons of the billiary ducts.

In the pancreas, the common findings were vacuolization and swelling of the cellular protoplasm with changes in the staining qualities of the nuclei and more or less diffuse foci of necrosis, multiple hem orthogic areas with constriction of the arteries, and decommendation of the ductal mucosa. No changes

were found in the idet tisme.

In the kidners, the charges were so variable that a generalization is impossible. Common findings included distention of the glomerull due to accumulated blood. Occasionally this was associated with rupture of the intracapsular capillaries and hemorrhage although in some instances the glomerull were markedly contracted. Other common findings were distention of the theorems and an account of the common states of the common states of the common of the common states of

The spleen was usually contracted and showed retraction of the connective tissue septa, fragmenta tion and dissociation of the splenic tissue, and scat

tered areas of hemorrhage.

In the thymus, areas of hemorrhage into the pulp and some distention of the veins were found but a condition simulating that of status thymicolymphaticus was not seen.

The skeletal muscles showed fragmentation a tor tuous and somewhat vorticese arrangement of the fibers, loss of striation, vacuolization, and some separation of the contractile substance from the

In the central nervous system the changes were extremely variable. They were most constant in the cerebral cortex. The cell bodies were sometimes dif ficult to identify because of fragmentation, polvertication, or granulation of the protoclasm and reduction in the size of the cell. The surfaces of cells which remained more or less intact were marked by a laceration, notch or emalon. In the nuclei chromatolysis and vacuolization were extremely variable. They were most constant in the cerebellar cortex and pons. The nuclei showed retraction and reduction in size and were often displaced and vacuolated especially in the basal ganglia, the floor of the fourth ventricle and the cerebellum. The nerve cell processes were often wavy, fragmented and spirillar. The changes in the blood vessels were similar to those in the other organs. They included consession ecchymoses, and infarcts.

Changes in function following a non-fatal above, were studied with special reference to the liter and kidneys. Fractional aboves were found to produce grave inhibition of the renal function with anuta frequently continuing for three days, an increase in the cholesterin content of the liter an enormous increase in the lactic acid content of the blood, and marked returnion of alterensia endecoders such

as area and amino acids.

Hematological studies after fractional abocks or vasied an increase in the number of certualities erythrocytes variations in the number of lexecocytes, which at times were increased and at other times decreased a constant increase in the lymphocytes and monocytes a slight increase in the viscosity and coagulation ture and an increase in the re sistance of the erythrocytes.

Estracts of organs of electrocuted animals were found to be more took than those of the organs of mormal animals and in some instances acted in a peculiarly specific manner extracts of lung, for example causing death with marked polamonary ordems and extracts of kidney causing death with marked real changes and surface.

In general, the electricity caused regressive changes of varied grades in the cells of all organs and when the shock was protracted or intense it produced a more r less grave pecrosis.

L Louis Rose M D

Riesman D. Fox, W. W. Alpera, B. J., and Cooper, D. A. Hydrophoblar, Report of Two Fatal Cases, with Pathological Studies in One. Arch. Int. Hol., 1933. H. 643.

In the first of the two fixed cases of hydrophobic reported by the authors the treatment consisted of custerization with fuming nitric acid. Symptoms of nibles developed after tentry-six days and death occurred three days later. In the second case the wond was custerized with phenol and a full contre of Pasteur prophylactic treatment was given, but symptoms or nibles developed after three weeks and death occurred four days later. Autopsy in this case disclosed the characteristic lesions of rables encephalitis, namely inflammatory changes in the gray matter at the base of the brain, particularly in the colliculi the periaqueductal gray matter the substantia nigra and the tegmentum of the poss and medulia. The inflammation had spread to the suited cort.

The treatment recommended is thorough cautern zation with funing nitric acid followed by a course of Pasteur immunization. In cases of bites about the face and hands the immunization should be rapid as immunity is not developed until fourteen days after completion of the treatment.

MAURICE L. DALE, M.D.

AN ASTHRSIA

Field W. H. and Pilcher L. S.; H: Avertin Angesthesia. Ann Surg. 1933 xxvil, 577

Four hundred and thirty-one surgical cases in which ancesthesia was induced with avertin were compared with a like number in which operation

was performed under anæsthesia induced with some other anæsthetic. The preparation in the former was avertin fluid. This was used as a basal anæsthe tic only The dosage varied from 60 to 100 mgm per kilogram of body weight. The advantages of the use of avertin are the avoidance of pre-operative fear the ease of induction of narcosis, reduction of the amount of general anaesthetic necessary and reduction of postoperative distress. The disadvan tages are the time and trouble necessary to prepare the solution freshly each time the length and varia bility of the induction period lack of control of the anasthetic after the solution has been given prolonged special nursing after the operation slow excretion of the drug through the kidneys the wide variation in the susceptibility to avertin and the narrow margin between the therapeutic and toxic Foremost among the contra indications are conditions lowering liver function Other contra indications are conditions decreasing kidney function, severe cardiac disease old age cachexia marked shock and severe acidosis.

GEORGE R. MCAULIFF M D

PHYSICOCHEMICAL METHODS IN SURGERY

DODETOWN OF OOK

Podlasky II B. and Enzer, N : The Comparative Value of the Serological and Roentgenological ti Disenses of Contenital Syphilis. Redulery Intl. IX. 117

Un to recent times the detection of convenital synhilis has depended entirely on examination of the blood except in cases in which it was known that the mother had syphills or the newborn infant presented definite evidences of the condition. Lately the roentgenological diagnosis of syphilitic involvement of the osseous system has been developed to a high degree of accuracy. The study here with reported was undertaken to compare the relative values of the z diagnostic procedures. The methods and results of serological tests and the ment senological findings as reported by various ob-

servers are discussed at length In the study on which this report is based, 1 006 mothers and oza infants were examined serologically In to cases the findings were positive for either the mother or the infant. In 13 both the maternal blood and the cord blood were positive. Seven of the infants in these cases were examined roent senologically shortly after birth. In 17 cases the serological findings in the maternal blood were positive, but those in the cord blood were negative Five of the infants in these cases were subjected to roenteenological examination immediately after birth and a were examined roentsenologically several

months after birth. In the cases of 6 babies positive indications of osseous syphilis were discovered in the first week of

life. The blood of the mothers of these bables was positive. The blood of 1 of the babies was not examined In the cases of 4 the cord blood was positive and in the case of r it was negative. Of 7 cases in which \-ray examination of the baby at birth was negative, the mother and baby were positive in 3 and the mother was positive and the baby was negative in 4. In 6 cases examinations were made at intervals of six, seven, and ten months, and in a after one year. Of these 6 the roentgenological findings were positive in a the latter the serological findings were positive in a and the maternal blood was positive but the cord blood was negative in r In the 3 cases in which the roentsenological findings were negative the bables' blood was negative while the mothers blood was positive. In a case in which the roent genological examination after one year was positive for osseous syphilis, the roentgenological examina tion at birth had been negative and both mother and baby were positive serologically. In other words, there was positive agreement at hirth between

the roentrenological findings and the aerological findings in cases. The roentgenological findings were positive in a case in which the blood was negative and were negative in a cases in which both the baby a blood and the mother's blood were positive. In a cases the X raw findings served with the negative cord blood. In r case positive findings of osseous syphilis were detected one year after birth when the cord blood was perstive the recheck on the baby was perative, and the maternal blood was positive

In summarizing their article the authors state that in a large percentage of cases in which there are needtive acrological findings in the infant with or without similar findings in the mother osecous changes are demonstrated on roenteenological are minetion

Negative reentgenological findings should not be considered as ruling out the presence of syphilis as they may indicate merely the absence of osecons avnhilia at birth. Roentsenological evidence of osseous syphilis may be obtained in the absence of positive serological findings in the baby. Cases of positive maternal blood and negative cord blood demonstrate the importance of re-checking the serological and roentsenological examinations at intervals of from three to six months. Negative serological findings in the cord blood and negative roentgenological findings in the presence of maternal syphills are not absolute evidences of the absence of syphilis in the newborn.

ADDITION HANDING, M.D.

PADIIIM

D'Emidio, A. S.: Radium Thereny of Reticulo-Endotheliometa-Reticulometa-of the Tonell and Pharynx (La radiumterania nei reticoloendotellomi-reticulomi-delle amindale e dei cavo faringco) Radiol med 1012 IL 271

The author briefly describes the histological appearance of malignant reticulo-endothellomata, tumore characterized by rapid growth and investor of reticulo-endothelial tissue. He believes they are true tumors, although by some they have been described as simple inflammatory hypertrophies. He reports three cases.

The first case was that of a man forty-nine years of age who had a tumor of the left tonell with metastases in the lateral cervical glands. On May 11 1931 irradiation of the left lateral cervical and submaxillary regions was begun by means of a gause apparatus containing four tubes of 10 mgm. of ra dlum element filtered by a mm of platinum. The distance between the radium and skin was about 3 cm. The irradiation was given for twenty-one days and produced an intense crythems. On June 28 not a trace of the tumor could be found. In April, 1932 the irradiation was repeated as a prophylactic measure according to the author's custom. A year and a half after the treatment the patient was free from symptoms

The second case was that of a woman eighty two years of age who had a tumor of the lymphatic plexus of the right half of the pharynx which had invaded the tonall the right pillar of the fauces, and the lateral cervical glands on the right aide. The initial treatment begun September o 1032 was the same as that in the first case but was continued for only seventeen days. The patient is now in excellent health and free from symptoms but will be given a prophylactic treatment.

In the third case there was a tumor in the vault of the pharynx which had formed metastases in the lateral cervical glands On March 16 1932 radium irradiation of the left half of the face and lateral cervical region was begun. The technique of the irradiation was the same as in the first and second cases except that five tubes were used. The tumor decreased in size and the patient requested discharge as he felt well. He was advised to come back for further treatment, but refused to do so On August r he returned with a large recurrent tumor. He was then treated with eight tubes of 10 mgm of radium but signs of intracranial involvement developed and he died at the end of fifteen days.

The author emphasizes the danger of underdosage Too small doses produce radium resistance which makes treatment more and more difficult. The maximum saturation dosage which does not injure

the normal tissues should be employed

AUDREY GOSS MORGAN M D

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIO-LOGICAL CONDITIONS

Pluciński, K.: Morbus Aperti (M rbus Aperti) Ginsk polske 932 ti, 661

The author reports a case of morbus spertli in a trenty-sk month-old child born in the obstetrical and gynecological department of the bospital st Koemphutette. On the basis of the bistory is was possible to exclude a bereditary tain. Examination of the bicord of the parents and of the cerebrospital fluid of the child was negative for syphilia. The programmer bad proceeded without psychic disturbances, the child was carried almost to term, and the only manufact fluid. During labor disager of applying assoc on account of the abnormal structure of the skull

At birth, the child weighed 2 500 cm. Its sagit tal suture was short but about 1 cm. wide and terminated posteriorly in a bony defect measuring by 11/2 cm The bony defect terminated in a small fontanel, the use of the ball of an adult's finger Anteriorly the sagittal suture passed over into a large fontanel which terminated at the root of the nose in a bony defect 2 cm. wide. The skin, which was distinctly tense over the site of the defect, allowed the pulsation to be felt. The root of the nose was situated very deep and appeared to lie still deeper because of the marked bulging of the frontal protuberances bulged greatly. The corners were somewhat dull and the external angles of the eve ilds were considerably sunken. The external auditory meati were situated very low and the auricles stood away from the head. The soft palate was deft. The child breathed with a snoring noise. The second, third, and fourth fingers of the right hand were grown together and were movable only in the proximal foints. The fifth finger was free, but like the others was movable only in the proximal joint. The thumb of the right hand was in the policy varus position. There was one common nail to the third and fourth ingers. The left hand showed the same peculiarities except that each finger had a separate nail. The roentgenogram showed not only lack of differentia tion of the individual phalanges, but also the bony conlescences. The toes of both feet were grown together. The great toes projected and turned in ward in the form of a hallux varus. The roenteenogram showed absence of the two first phalanges of both feet.

Another examination made twenty-six months later abowed changes affecting chiefly the skull. The fronto-occipital drumference was 47 cm. the mento-occipital drumference, 53.5 cm. the distance of the small fontanel from the root of the nose sy cm. the fronto-occipital distance 15 cm. the biparietal distance 14.5 cm. the temporal distance 13 cm. the buccal distance, 12 cm. and the orbital distance, so cm. The child was 79.5 cm. long The large (ontane) gaped and was stretched, and the small fontanel was the size of the ball of a little finger The root of the pose was sunken and the nose had the shape of a parrot s beak. The upper lip was short, and in the lower jaw there were two teeth. Ophthalmological examination showed increased intra-ocular pressure and stasis papillaris in the atrophied region. The roentgenogram disclosed shortening of the dimensions of the base of the skull, widening of the sella turcica, gaping of the large and small fontanels, and very distinct digital in pressions. The child showed no psychic disturbances of any kind. It did not speak but cried hoursely

The article includes a photograph of the child and roentgenograms of the base of the skull, the left hand, and the left foot. This is the thirty third case of morbus aperti to be reported.

ST YOM SOMETHAMENT (G).

Melesser F L.: A Differential Diagnosta Between Certain Types of Infectious Gengrene of the Skin; with Particular Raference to Hismodytic Strepteococus Gangrene and Beaterial Syster glatic Gangrene. Surg. Gyme. & Ohr. 1933 lvi, 547.

The author calls attention to the importance of making a prompt differential diagnosis between the various types of infectious gaugeme of the skin because the treatment of the different types varies markedly and early institution of the proper treat ment may not only save life but will decrease the cleatrization and deformity.

He divides infectious gangrene of the skin into two types, the acute and the chronic. The acute type may be divided into three subtypes (1) the familiar gas gangrene (s) gangrene due to the hemolytic streptococcus, and (3) gangrene due to crysipelas The differential diagnosis between these types is very important. In the gangrene due to the hemolytic atreptococcus and in that due to ery sipeles, the author found the hemolytic streptoco: cus in large numbers, but in the gangrenous ery sipelas it was found in the skin at a distance from the lesion. The differential diagnosis was based on the fact that in the second type of gangrens the ouset is insidious with mild fever and mild compiletional symptoms, but alarming local symptoms. Extreme redness and swelling are usual. The gasgrenous areas appear after from three to five days and are often preceded by large blisters. There is extensive necrosis of the connective thenes, and the inflammatory exudate about the borders of the ksions contain few bacteria. The gangrene is not sharply defined, like that of eryspelas which begin swith a much more intense onset with a chill and the rapid onset of high fever. The differentiation of these two conditions is of great importance as in the gangrene due to the hamolytic streptococcus prompt multiple incisions are indicated to lessen the tension and provide drainage whereas in that due to ery sipelas such radical treatment is not necessary

Chronic gangrene is of four types. The first type is the postoperative progressive bacterial synergistic gangrene which follows the drainage of infection of the abdomen or chest. A week or two after the operation multiple small food of infection which the author describes as carbinculoid in appearance, are seen. The course of the condition is slow and often of all of the layers of the skin. A typical non-hemolytic streptococcus may be isolated. The treatment indicated is radical excision of the entire

The second type of chronic gangene us gangenous impetigo. This occurs usually in debilitated persons. As a rule the lesions are multiple. They begin as an ordinary impetigo and contain large numbers of staphylococc. Hemolytic streptococci may be secondary invaders. The treatment indicated is careful removal of the scabs and the application of

ammoniated mercury ointment.

The third type of chronic gangrene described is the fusopriochatal gangrene. This occurs in wounds contaminated by mouth secretions. In the early stages there is an inflammatory reaction. This is followed by progression not only in the skin, but also in the deeper tassics, possibly extending into the bones and joints. Simears show halform bedill and approchetes. The treatment usually indicated is intensive arenealist medication, but in late spreading cases in which the lesions are very large, amputation may be increasing.

The fourth type of chronic gangrene is amorbic gangrene. This follows drainage of an amorbic abscess of the liver and should be recognized at once for that reason. Emetin medication is indicated.

EDMUND ANDREWS, M.D.

Nicholson G W: Studies on Tumor Formation Guy's Hosp Rep., Lond. 1933, Exxfil, 151

This article is a discussion and review of contemporary biological teaching regarding tumor formation as understood by the morbid anatomist. The author concludes his discussion by stating his own view that tumor formation is a reaction to etimulation which is comparable to all reactions of the organism or cell, differing in degree but not in principle. Its visible anomales or peculiarities of structure are commensurate with, and expressions of those of behavior. It is a reaction, an innate physiological potency or "capacity" of every dividing cell. It represents and is, the innate, physiological function of growth by division.

M. HERBERT BARKER, M.D.

Paulian Stefan Popescu and Marinesco-Slatina Subungual Glomic Tumor Associated with Hemilipperthermia. Complete Cure Following Surgical Ablation (Tumeur glomique sous-un guéde solvie d hémilipperthermie et guérison complète après i ablation chirurgicale). Ann S'anal pati 1933 x, 271

The case reported was that of a woman aged thirty two years who had complained for some time of pain increased perspiration, and a sensation of heat in the right arm and the right side of the body and face. On examination a small tumor was found under the nail of the right middle finger and slight pressure on this part produced pain in the regions in which the symptoms were present. Local skin tem peratures were found to be from 0 5 to 2 degrees C higher in various parts of the right hand and arm as compared with the left.

The finger nail was removed and the tumor shelled out. The neoplasm was found to be encapsulated and to measure 4 by 6 mm. Section showed it to be composed of blood vessels, endothelial cells nerve

fibers and ordematous connective tissue

The authors cite also the case of a girl thirteen years old which was reported by Barre and was of a very similar nature except that the tumor was under the nall of the left middle inner

They state that subungual tumors of this type with their attendant phenomena represent a definite clinical entity. They have collected a number of reports on such neoplasms most of them from the French literature. MARBI W POOLE, M D

Woglom W. H. Absorption of the Protective Agent from Rats Resistant to a Transplantable Sarcoma Am J Cancer 1913 xvii 873

In animals that have rid themselves of transplantable neoplasms resistance to a second inoculation is often so definite and so striking its resemblance to the immunity produced by most bacterial diseases that a search for an immune body has been industriously pursued ever since spontaneous cure was first observed nearly thirty vera sago

If an antibody of any sort is present in resustant animals its amount must be infinitesimal or its action remarkably weak as it has escaped discovery all though sought by many investigators for many years. The feebleness of the immune response is indicated by the fact that regressing tumors can be propagated with a fair degree of success and contain

many actively dividing cells.

Although it has been suggested that the spleen of an immune rat contains some principle able to attack the cancer cell directly it is possible also that the agent damages this cell indirectly by acting on the capillaries or the connective tissue at the moen lation atto in such a manner as to prevent vascularization of the graft. All of the evidence so far acquired supports the view that in the tissues of a realistant animal there is an inimical substance that acts on the sarcoma cell without an intermediary

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIO-LOGICAL CONDITIONS

Pincifiski, K.1 Morbus Aperti (Morbus Aperti)

Ginak. polsko 932 i, 66

The author reports a case of morbus aperil in a wenty-six months-old child born in the obsettrical and graceological department of the hospital at Koenlpshutette On the basis of the history it was possible to exclude a hereditary taint. Examination of the blood of the parents and of the cerebrospinal fluid of the child was negative for syphilis. The pregnancy had proceeded without paychic distortances, the child was carried almost to term and the only complication was an abnormally small quantity of annihold fluid. During labor danger of asphysis arose on account of the abnormal structure of the

At birth, the child weighed a too gm. Its sagit tal suture was short, but about 1 cm. wide, and terminated posteriorly in a bony defect measuring by 114 cm The bony defect terminated in a small fontanel, the use of the ball of an adult's fineer Anteriorly the sazittal suture named over into a large fontanel which terminated at the root of the nose in a hony defect a cm. wide. The skin, which was distinctly tense over the site of the defect. allowed the pulsation to be felt. The root of the nose was situated very deep and appeared to lie still deeper because of the marked bulging of the frontal produberances bulged greatly. The corners were somewhat dull and the external angles of the evelids were considerably sunken. The external auditory menti were situated very low and the nuricles stood away from the head. The soft palate was cleft. The child breathed with a sporing noise. The second third, and fourth fingers of the right hand were grown together and were movable only in the proximal wints. The fifth finger was free but like the others was movable only in the proximal joint. The thumb of the right hand was in the poller varus position, There was one common nall to the third and fourth fingers. The left hand showed the same peculiarities except that each finger had a separate nail. The roentsenogram showed not only lack of differentia tion of the individual phalanges, but also the bony The toes of both feet were grown coalescences. together. The great toes projected and turned inward in the form of a hallux varus. The roentgenogram showed absence of the two first phalanges of

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Malency F. L.: A Differential Disginosis Between Certain Types of Infectious Carngress of the Sidn; with Particular Reference to Hemolytic Streptococcus Gangress and Bacterial Syster gistic Gangress. Surg. Gymer. & Olisi 1933, M. 847.

The author calls attention to the importance of making a prompt differential diagnosis between the various types of infectious gangeroe of the skin because the treatment of the different types varios markedly and early institution of the proper treat ment may not only save life but will decrease the

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Except in severe septic conditions. 6 Dusbetes which neutralize the effect of ordinary doses of insulin, and in cases with a high degree of arterial degeneration, diabetic patients can be brought al

most to the level of normal surrical risks

7 Jaundice and hepatic insufficiencies danger of hemorrhage in patients suffering from laundice is universally recognized. It is best com bated by the intravenous administration of calcium

chloride.

8 Renal insufficiencies Very little can be done to reduce the operative risk in gross kidney disease. Chronic parenchymatous nephritis is an exceedingly grave risk. When the blood urea is 0 3 per cent or less, the patient is a good risk when it is o 5 per cent, he is a poor risk, and when it is above o 6 per cent, postoperative uremia may be expected.

o Endocrine derangements Patients with endocrine derangements are subnormal surrical risks.

In conclusion the author states that in the cases of temperamental toxic, and obese patients and those with gross derangements of metabolism great care is necessary when operation is to be performed.

J TROMWELL WITHERPOON M D

DUCTLESS GLANDS

hing, H.: Dyspitultarism ; Twenty Years Later with Special Consideration of the Cushing, H.: Pitultary Adenomata Arch Int. Med., 1933 li

Cushing discusses pituitary adenomata to call attention to these processes as secretory stills which, in spite of their pathological structure, are probably elaborating an excess of the normal

hormone.

The normal adenohypophysis (anterior lobe of the pituitary gland) as distinguished from the neurohypophysis contains only three cellular ele ments. These represent a single or chief element in two stages of activity The chief element the primary mother cell, possesses a finely granular non staining (chromophobe) cytoplasm which, in the process of ripening acquires coarse secretory granules of two distinguishable types known as scidophilic and basophilic." The ripened cells show an individually characteristic paranuclear Golgi apparatus which is predetermined by the morphology of the Golgi body in the mother cell.

From the clinicopathological standpoint it is significant that there are three cell types and that only three types of pituitary adenomata are recog nized. One of the latter is composed of chromophobe elements apparently identical with the non secreting mother cells. Another shows an abundance of acidophilic elements and causes the clinical mani festations of overgrowth. The third is purely basophilic in composition and produces effects sug

cesting an excess of the gonad stimulating principle Accordingly there are neither cell types nor corre sponding adenoma formations which represent more than three possible hormones and the purely chromophobe adenomata do not show any secretory hormone

The chromophobe adenomata produce a slow compression of the active secretory elements of the pituitary gland with symptomatic consequences which are purely hypopitultary While they are found most commonly in adults, they occasionally occur in children. In the young their dual inhibi tory effect on growth-promoting and sex maturing elements is more evident.

The author reports a case of dual hypopituitarism The patient was a pituitary dwarf with a combined intrasellar craniopharyngioma and a chromophobe adenoma. She was operated on twice for neighbor hood symptoms and was under observation for a period of eight years. Intramuscular injections of a growth extract relieved the symptoms, but caused no acceleration of growth.

Also reported are the cases of two young normally adolescent boys who had a very rapid increase in stature. While it is not easy to determine just where overgrowth of this kind ceases to be merely excessive and becomes pathological, such over growth is suggestive of an excess of the growth bormone.

The acidophilic adenomata are associated with pathological overgrowth represented by gigantum and acromegaly This fact has led to the theory that the growth bormone is a product of these cells and this theory has been confirmed by the demonstration of absence of acidophilic elements in the pituitary glands of hereditarily dwarfed mice. The dystrophic changes in the reproductive appara tus which so often accompany clinical gigantusm and acromezaly may be explained by the compression effect of a growing adenous upon the remain ing normal elements in the gland.

As an example of this complication the author reports the case of a woman who had postpartum amenorrhoea continued lactation fugitive acromeg aly enlargement of the sella with neighborhood symptoms demanding operation, a chromophile adenoma, subsequent pressure symptoms benefited by irradiation, and ultimate symptomatic involve ment of the hypothalamus from intracranial expan sion of the tumor with resulting hypothalmic (autonomic) fits.

Special attention was paid to certain features of this case. The acromegalic symptoms were fugitive and the adenoma while acidophilic in type was composed chiefly of large undifferentiated chromophobe elements. The author suggests that it may have been an adenoma arming from the which may be chromophobe pregnancy cells elements arrested in the process of ripening into addophiles. The cells of the tumor may have secreted a lactogenic hormone. The constantly subnormal blood pressure may be ascribed to pres

sure obliteration of the neurohypophysis, and the amenorihous may have been due to the compression effect on the cells (whatever they may be) claborating the luteinizing principle. The skin was pale mosts and without strike and the adiposity was exercisely distributed over the body.

The basephilic adenomata are associated not infrequently with a well recognized polygiandular disorder which like acromegaty varies considerably from case to case. Suggestive clinical examples are found in the literature dealing primarily with outcomalcid, hypertension disbette obesity and

dermatological conditions.

The number reports the case of a woman who at a most increase and incr

or the adrenal cortax, and extreme atherosterious.

The basophilic activation of the neurohypophysis with the neurotropic effect of abdominal adiposity hyportension, cholestersemia and atherosclerosis is

discussed in detail.

In discussing the accordary endocrine effects the author states that in plutiary basophilism the thyroid appears to be surprisingly inactive the para tryviols appears to be surprisingly inactive the para striking feature, and very little thyrnic tissue is striking feature, and very little thyrnic tissue is stroud. As no demonstratile change has been observed in the later tissue of the pancress, the glycomeria is ascribled to activation of the neurohypophysis by the cells of the para intermedua. Barked hypertrophy of the adrenal cortex occurs with characteristic hypertrusion, hypertrichods, and deristion of the secondary ser qualities much as the masculinization of women. The gonadal changes are difficult to appraise.

ic. I Edwar Karkimerick, M.D.

Massière: The Parathyroid Glands and the Various Parathyroid Syndromes (Les parathyroides et les divers syndromes parathyroidens) J de mbl de Borlous 933 Cs. 71

The author first reviews in detail the anatomy embryology physiology and pathology of the para thyroid glands.

The signs of acute parathyroid insufficiency are those of neuronacular hyperacticability. The responses to the galvanic current vary with the degree of the deficiency. The symptoms of parathyroid gland deficiency have been produced in animals by the administration of guardine. Roch found methyl guardine in the urine of parathyroidectomized dogs. By some, the parathyroid glands are believed to have a regulatory action on the detorilying function of the liver.

Chronic parathyroid insufficiency is present in infantile tetany the tetany occurring during pregnancy lactation and mensionation, gastro-intestinal tetany and the tetany associated with fevera. Under the term "dysparathyroid syndromes are included varicose, gastric and dhocderal silvers. The syndrome of hyperactivity of the parathyroid glands is observed in von Recklingbausens disease of the bones, Pagets disease of the bones, ostomalicia and arthritis deformans. The possibility of involvement of the parathyroid glands in certain types of epilepsy mysathenius, and Parkinson's disease is discussed briefly.

The therapy of parathyroid insufficiency includes the administration of calcium, exposterol, and para thyroid gland extract grafting of the fresh gland, and irradiation with ultraviolet light. Calcium and parathyroid gland extract have produced favorable results in the treatment of various and chrosic peptic siters. Surgical removal of the parathyroid stands is indicated in your Rec-tilinghament, disease

of the bones and scleroderma.

The different techniques of surgical approach to the parathyriod glands are described. The glands are found by following the inferior thyroid arter to its termination. When they cannot be looked, Leriche advises tying the inferior thyroid artery from below its bifurcation. The inchemia thereby produced gives a result dimilar to that of ablation of the gland. Surgical treatment directed toward the parathyroid glands have given very favorable for the standard of the production of the gland of the forest of in Page's different parathyroid glands have given they forest forest of in Page's different parathyroid glands have given they forest forest of in Page's different parathyroid glands have given they forest forest of in Page's different page of the page

FRANÇOIS JURIN DE PRUME, M D

EXPERIMENTAL SURGERY

McDowall, R. J. S.: Experimental Shock. Bell. M.
J. 011 1, 500.

The author defines shock as a state which results from a fall of arterial blood pressure which, if sever, may lead to death from oxygen want. If may result from (s) cardiac failure, (s) loss of blood, (s) undo opening up of the blood vensels which are normally closed, or (4) a reduction of the peripheral resistance to the five of blood from the arterial system. It

may be also chemical or pervous. The chemical variety is typified by histamia shock which occurs following considerable destruc tion of tissue and has a delayed onset. Histamin acts by dilating the capillaries, thus producing an insufficiency of blood, the animal, as it were, bleeding into its own capillaries. The capillaries become more permeable and the blood becomes more concestrated. The shock is increased by cold and by angesthesia induced with ether or chloroform. In clinical cases it develops after burns and other conditions causing extensive tissue destruction. The author attributes its aggravation by cold to exhaustion of the suprarenal glands. Because of this action of cold, it is necessary to keep shocked patients warm. Anesthetics act by dilating and increasing the permeability of the vessels and paralysing the Therefore if normal mechanism of compensation. shocked patients must have an angesthetic, nitrous oxide gas or a local amesthetic should be given.

The nervous varieties of shock may result from physical damage to the vasomotor center or its efferent paths from afferent impulses leading to carbon dioxide loss (acapina) or from inhibition of the center Damage to efferent paths may be due to injury to the spinal cord, fat embolism in the medulia or high spinal anexthesis. Concussion of the vasomotor center itself also produces shock. Acapine shock results from loss of carbon dioxide which throws the vasomotor center out of action Hence, overhreathing should be avoided and every effort made to reduce sensory stimulation during operation. Herein lies the value of morphine. De pressor shock often results from a trivial injury. In this condition the vasomotor system is evidently in

hibited by afferent impulses such as mechanical stumul. Depressor shock can be produced in an animal with the chest open and under artificial respiration. Both acaptale and depressor shock can be prevented by deep anaesthessa. Hence man patients with primary shock are benefited by amesthesia as has long been known by surgeons.

The author believes that the whole clinical subject of shock needs to be re-investigated, and that the determination of the beat method of dealing with histamin is one of the most important problems of modern surgery. He urges a better differential diagnosis of the types of shock which necessitates a more thorough and painstaking study of the patient himself

CLARENCE C. RECO. M.D.

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one illustration to show this type of closure, and Veau states that he writes this chapter with thindity because he has not had sufficient experience to state with authority the value of the method he proposes.

The final chapters deal with speech and include studies by Borel on the physiology of speech in patients with cleft palate and on the training of

speech after operation.

Dorrance (18) states that it has been generally accepted that in most cases of cleft pelate the pelate is short. Cleft velum alone and cleft pelate which extends as far forward as the anterior polatine foramen are usually shorter than lip-jaw-palate spilits.

In a study of the speech mechanism in a cases in which the nose and septum had been lost, a sphineteric closure of the nasopharyax was observed. Further anatomical studies abowed that the supernor constrictor of the pharyax was inserted into the velum and interlaced from side to side so that on contracture there was a definite sphineteric closure between the assal and the oral

Dorrance is convonced that the tensor palari muscle is shorter in persons with cleft palate than in normal individuals. The independent pull exerted on each side by the shortened muscle drags each half of the cleft velum forward and outward causing the tips of the cleft uvula to point toward the median lune.

Division of the hamular process will release the tension produced by the tensor palati muscle and thus permit mensal displacement of the palatine insertion of the superior constructor muscle of the pharynx. The function of the tensor palati muscle will be altered from that of a tensor to that of an elevator and the tensor palati rendered an assistant to the levator palati muscle

For clefts of the velum Dorrance usually performs the a stage 'oush-back operation.

The "push-back operation is used also in cases with congenital shortening of the palate, cleft volum and cleft palate extending as far forward as the unterior palatine foramen. In these cases the operation ends with complete restoration of the palate. It is applicable likewise in cases of complete cleft palate in which the velum is short and the von Langenbeck operation cannot insure success.

In dealing with cases of lip-faw palate splits, in which the soft tissue is of adequate length, a modified von Langenbeck operation is performed

In Dorrance's opinion the age of choice for operation is between the second and fifth years, preferably after the fourth year.

Dorrance's book, "The Operative Story of Cleft Palate," is a complete recording of the procedures used for closing cleft palates from the first operations down to and including Dorrance's own observations and work. There are a great many illustrations of instruments and operative procedures, and over 4,000 citations to the literature are included. The authors "push-back" operation is described in detail. The great number and the complex nature of the methods of closure which have been worked out make a review of the book of little value but before any procedure is labeled new" the originator should consult this book for he will almost assuredly find at least this dee already in print.

Browne (13) states that the mechanism which closes the nasopharynr is the same as that which closes so many other passages in the body—the device of a complete muscular ring or sphincter

The posterior half of the sphincter is made up of the superior constrictor and the palatopharyngeus which, by simultaneous contraction, produce a shelf on the posterior wall of the pharynx known as "Passwant a ridge."

The anterior sling consists of the 2 levatores

and the a tensores of the palate.

The aim of the operation for cleft palate obviously becomes the construction of a contractile ring similar in structure to the normal ring and capable of closing the nasopharyageal passage.

The sacrifice by the Brophy operation of the germs of the permanent teeth by the leaving of septic wires among them for long periods is too high a price to pay for enser joining of the palate.

The production of a simple stiff partition between the none and the mouth which means success in dealing with the hard polate means failure in dealing with the soft palate.

If the mucoperosteum is boldly detached from the alrecalar ridge along its outer border so that it is simply left attached by its anterior and posterior ends, it can be pulled award to any extent needed by the width of the cleft and still left in contact with the underlying bone.

The solution of the dilemma of the disposal of the posterior palatine artery appears to be the deliberate arrangement of an adventitious circulation to replace the natural circulation by cutting the artery at a preliminary operation.

The operation for closure of the soft palate is essentially one of muscle transplantation and requires wade denudation of the bordering mucoss so that wide areas of submucous tissue can be approximated.

Dermace, C. M. and Shirary E. The Operators Story of Clark Palets 1915 Philodophia, Sanadors

The rigid bony framework of the pharynx is of normal size but the muscles available are short and atrophic. The freeing of the levator palati is easy enough, but the turn of the tendon of the tensor palati round the hamular process fixes it firmly to the boundaries of the nasopharynx and changes its direction so that it pulls directly out ward against the line of junction. It is fortunate that the hamular process can be very easily snapped off at its base without interfering with the synovial sheath of the pulley and thereby displaced inward and upward to a position which will not interfere with the joining of the a tensores. In this new position it must finally become fixed by the healing processes so as to afford once more a fulcrum to the tendon that curls round it.

As a preliminary to the joining of the cleft it is necessary to re-arrange the blood supply by cut ting the posterior palatine artery and to remove

the tonsils

In every case without exception the hard as well as the soft palate should be completely mobilised Proper mobilisation is proved when the sides of the cleft tend to fall together and can be pushed into contact with the very slightest pressure.

The only danger to fear after the operation described is sepsis of the corroding type which will

break down any wound in which it occurs.

Mitchell and MacKenzie (42) after a

Mitchell and MacKenne (47) after a long period of disastisfaction with the single stage von Langenbeck operation, have found a routine 2-stage delayed flap operation of advantage. The first stage includes the elevation of flaps through lateral incisions and their detachment from the posterior surface of the bony palate. In the next stage the flaps are re-elevated and freshered in the midline and the closure is then completed

Gehing (24) reported 30 cases operated upon by the von Langenbeck procedure. In 14 healing was sotisfactory, in 14 to occurred with defects and in 2, the result was a failure. Speech was

normal in 3 cases.

Momner (48) operated in general according to the procedure of von Langenbeck with certain modifications. He divides his 150 cases into 4 groups. Of those of Group 1 cases of partial cleft, correct healing resulted in 86 5 per cent and good speech in 70 per cent. Of those of Group 2 cases of subtotal cleft, correct healing was obtained in 72 3 per cent and good understandable speech in 63 per cent. Of those of Group 3, cases of one sided cleft the operation was followed by correct healing in 39 per cent and by good speech in 88 per cent. Of those of Group 4 cases of double aided cleft, a defect requiring secondary closure persuited in all. The defects were mainly on the

front part of the hard palate. Good speech was obtained in 42 per cent of the cases of Group 4. Monnier endeavors to build functioning lips, produce correct lip curves, reconstruct the soft and hard palate without a defect, and fashion a long movable soft palate. He has obtained better results in lip correction since he has sutured the mucous membrane, muscle and skin individually

Liebermann (38) suggests a procedure in which a flap with its raw surface toward the nasal cavity is raised on one side and a flap on the other side is raised with its raw surface toward the oral cavity. These flaps are laid upon each other raw surface to raw surface, and a double row of stitches is care fully introduced. This appears similar to the

Lane operation.

For the after-care in cases of cleft palate, Grammelsdorf (26) recommends violorm or lodo-form packs in the lateral incisions and protection of the suture line with lead, silver or celluloid plates. Of further importance is a specialized massage of the soft palate which is deficient in movement, and at the same time speech training

Kitlowaki (37) has completely recorded the preoperative and postoperative care in cases of cleft lip and palate which is followed on the service of

John Stauge Davis

Pagnamenta (52) reports over 150 cases in which the von Langenbeck operation for cleft palate was done. He confirms the contention of Ernst that the background is too wide a mesopharvnx or too short a soft palate. In the cases reported speech was quite understandable al though very nasal. Paguamenta believes that the age at which the operation is performed is un important as far as the results are concerned. As a fistula in the lateral incision resulted in only one of the cases reported he does not advocate the use of the Monnier band. Healing was best in patients under two years of age. In the cases of complete double clefts, which constituted 16 per cent of the total number, healing never occurred without a defect. An overstretched soft palate and poor condition of the teeth have an un favorable influence on speech.

Operation performed early—toward the close of the second year—has a better prognoss as regards plastic reconstruction even if its mortality is higher than that of operation performed later. In its cases of serious clefts the attainment of a completely normal condition by means of surgery alone cannot be expected. The help of the dentist and speech teacher is necessary in addition and speech teacher is necessary in addition.

Logan (39) gives an excellent summary of cleft palate operations and cites instances in which upper jaw deformity occurred (1) without any operation on the palate, (2) following simple closure without bone wiring, and (1) following direct bone wiring. However he remains convinced that the principle of the direct application of force through the medium of silver wires and lend plates high on the buccal aide is an approuriate treatment for the very wide clefts with marked deviation of the nose and its septum from the median line of the face. He states that as far as he knows no one has ever investigated and presented evidence as to the location of the germs of the permanent teeth at the age at which operation must be done for the bone correction. On the hous of an original investigation he shows the exact position of the decaduous teeth in relation to the germs of the permanent teeth between birth and mx months. Special attention is called to the fact that all developing permanent teeth that are to replace deciduous teeth are located at this age to the lingual side, with the exception of the becastid germs, which are to the occlusal side of the erupting deciduous first and second molars. Of special interest is the finding that the permanent laterals and bicusped teeth have not yet started to calcily in spate of the fact that they emint previous to the permanent cospid, the rrown of which is far advanced in its calcification.

Logan believes that operation should not be undertaken before the age of two months, and should be done preferably between the ages of two and four months.

Loran a operation is described in minute detail with photomicrographs of taws showing the positions of tooth buds and wires. Silver wires are passed above the deciduous tooth huds without damaging the permanent buds which are lingual or occhusal. On the sound side they are introduced in front of the cuspid eminence and in front of the rygomatic process and brought across and out on the cleft aide in front of the zygomatic process. They are fixed over lead plates and anchored with a "uranoplastic button. 3 A second nesterior were is carried clear around the alveolus and twisted together in front. By this direct force the alveolt in front are brought into contact. The remaining cleft is closed by a modified Lane flap turned over from the sound ade to engage under a flap from the cleft side.

The soft palate is closed a year later but the technique of the closure is not described.

From a study of specimens of the jaws of 25 subjects ranging in age from histo to fitten years. Logan and Kronfeld (40) have drawn conclusions regarding the time of calcification of teeth which vary from those on which the standard accepted tables are based. They have summarized their

findings in relation to cleft-pelate surgery. A care ful study of the work should be of great benefit to

all engaged in this field of surgery

"At the time when wiring through the upper jaw is preferably performed (between the second and fourth months) the tooth germs are lying in the paw in such a crowded position that passing wires between them, as originally suggested by the advocates of the direct application of force is now known to be impossible. It is possible to pass wares or other suture material through the maxilla above certain germs, at a point mediad from the cuspld eminence and distad from the decidnous and permanent central incisor germs, or immediately above the deciduous lateral incror second point of entry is located in the field between the cuspid emmence and the syromatic process above the first decidnous molar germ. If the points of entry for the wires are high enough and at the exart landmarks specified, the only possibility of injury to the germs is that which confronts the operator when sufficient care has not been exercised in the location of the very definite anatomic landmark described.

"Attention of all members of the profession who perform surgical operations for closure of complete congenital clefts or those clefts which extend to the maxillary ridge is invited to the necessity of obviating the making of incidors through the attached overlying soft tissues on the lingual aspect of the maxillary ridge for any conadgrable distance from the border of the cleft on either the long or short fragment for the purpose of elevating the periosteum for coaptation in the median line. Nor should such incisions be made for the purpose of everting or transferring of this there toward the center of an open cleft until the patient is at least one year of age, for the germ of the permanent lateral incusor is encased in the fibrous tissue of the maxillary ridge during this period. Furthermore, the germ of the permanent central increar is not yet within the bone of the ridge in the first six months."

BARFLIP

In "Trastement du Bec-de-Librre Unilateral," Plessur (5) has recorded the teaching of his master Vesu. He believes that the essential anatomical parts are always present in a delt lip, and that repairs of cleft lip which are not absolutely normal are due to failure of the surgeon to recognize and carry out a correct operative plan-With regard to reconstruction of the nose, he has not sure that perfection will ever be obtained.

Pleasier discusses the methods of other surgeons in the correction of hardin and reviews the history of the Mirault procedure and its variations. As Mirault's description of his original operation is not clear, much liberty has been taken in its interpretation and the operation has often been said to consist in taking a flap from the lateral sade and swinging it to the medial side of the cleft. Plesser states that in Mirault's first method a flap was taken from the midline and crossed over to the outside (Monod and Vaumerts, 1908). This is said to have had an unfavorable influence on the surgery of harelip for almost a century. Its poor results are shown by illustrations.

Mirault's second method in which an incision was made straight down the lip, is said to be much better. Veau has developed, is said to be much differs from it only slightly. The lateral column of the philitum and the cupid's bow are said to be

constructed by this procedure.

The importance of recognizing the basic anatomy and carrying out the correction accordingly is emphasized. Any operation that takes a flap (from one side or the other) is said to sacrifice form. 'Thus the first objective which is necessary when one undertakes the treatment of a hardlip is to make incusions on the akin surface which give a vertical suture line.' An operation with a flap from the outside which was described by Veau in 1925, but abandoned by him later, presumably in favor of the present plan, is shown by a diagram.

The technique of the operation for partial cleft is quite well illustrated and described. The floor of the nose is not opened, and no undermining is

done in the buccal fornices.

The illustration of the condution before opera don shows the nostril on the cleft side only very slightly widened and the diagram of the lip after the closure shows the same width. Whether the widening is supposed to be corrected and the ala lifted to its correct level is not clear, as there are no photographs of patients to show the repair of partial clefts.

In the last half of the book Plesser discusses the nose. In the second paragraph he says "The imperfections due to a deformity of the nose are less objectionable than those due to a poor

operation on the cleft lip "

The normal contour of the note is well described, but Plessier states that a perfect note is never obtained. He describes the methods of other aur geons and gives a rough classification of the deformities that persust after operation. The chapter on anatomy, which is excellent, deals more with deformity than with normal anatomy.

The operation is described in detail and is

shown by illustrations.

Eight complete defts with good operative results are illustrated. Some of the faults occurring with any operative plan may be found. In most of the cases the nose is not good, and m some of them the deflection of the columnia has not been corrected. The lip and cupid s bow appear per fect in some of the cases, and the floor of the nose, although not clearly shown in all seems adequate.

Plessier is enthusiastic regarding the procedures described and states that he will be currous to know after a few years whether American sur geons still employ the technique they use today

Kiskadden and Tholen (36) have successfully used the Rose, Thompson, and Mirault opera tions, but recently have performed the Mirault operation as modified by Blair and regard it as the most satisfactory. The latter includes a satisfactory plan for making the nostrils symmetrical and forming a floor for the vestibule. There can be no question that closing the lip on a zig zag line prevents retraction Moreover, the un pleasant notching of the vermilion border is en tirely avoided by the use of a flap as outlined by Blair It has not appeared necessary to close the skin muscle, and mucous membrane in 3 layers. However, 1 or 2 catgut sutures to approximate the muscle will prevent the slight hollowing found in many hip scars due to muscle retraction or poor apposition of the cut fibers.

Double cleft lip presents many very difficult problems which must be solved if a acustactory end result is to be obtained. The usual plan consists in incorporating the skin of the prolabrum within the lip and, at a later date, tubing it to

form and lengthen the columelia.

Occasionally the septum in its growth will utilize the prolabial arm and form a columella automatically. However this is not the rule. Under no circumstances should the premaxilla be removed.

Formerly Kiskadden and Tholen used wires rather extensively in both single and double cleft lips when the separation of the palate seemed excessive. At the present time r wire is usually found to be sufficient, and in early cases with but moderate separation, reliance is placed on the closure of the lip to mould the arch in position.

In secondary corrections one may find that in cases operated upon late the upper lip is left long and the vermilion border is quite hidden by its retraction. In such cases the Gillies cupid s bow operation is used. This procedure consists in out liming upon the upper lip the exact shape and position desired for the new vermilion border, satelficing the skin between this new line and the old irregular line and then undermining the

mucous membrane and resuturing it to the new border

An upper lip which is tight and very abort, may be lengthened and broadened by inserting a pedicle from the lower lip. The pedicle is formed by the excision of a central whole-thickness or V-shaned wedge.

Many patients operated upon late present a retracted upper lip which renders the profile extremely ugly. They are described as somewhat dish-faced, with a protruding chin a redundant lower lip and a retracted upper lip and nose.

The procedure advocated by Blair—advancing the checks and by on the face by wide lateral inclaims in the upper alreads much man given excellent results. Kukadden and Tholen use it recursive, and have found that almost without exception in his resulted in marked improvement of the profile. Insertable, the columnila is deeply attached and invariably, the columnila is deeply attached and invariably the columnila is deeply attached and invariably it it mastrion in the lip and must be freed from the septum and re-inserted as high its possible.

In cases presenting a bony defect or deficient arch, the lip and bese of the nose may be brought forward by cartilage implants or permanent prosthetic appliances attached to the teeth.

Blair (a) states that one of the worst nazal deformities, but perhaps the deformity least mentioned is that associated with cleft lips and palates. In the article cited he repeats his description of the nasel deformity which was published elsewhere

In the original operation there should be sufficient mobilization of the soft parts to permit fixation of the tissues with a correct level of the sia and the formation of an adequate floor of the neath! When this has been accomplished there will almost necessarily be correction of the devia tion of the whole nose and columelia.

If there has been no early correction of a harely or if the correction has not restored good mast contour the deformity will increase and become more solidly need with the growth of the face. The deformity is perhaps worst when there has been an early forceful closure with wiring of the spread maxille. Surgoal correction necessitates an extensive procedure with complete freeing and rotating of the nostrils into position. If the teeth are not sufficient in number or properly placed to maintain a normal profile of the soft parts, a dental prosthesis may be necessary.

For double harelip Horsley (19) has used a modification of the Rose operation and the opera tions devised by Blair and Federspiel with very satisfactory results. He emphasizes the importance of mobilizing the surrounding tissues of the fill and the alte throughly keeping close to the maxillars bone. The mucous membrane bordering the adjacent sides of the lip clefts and the premarillars process is removed, according to the type of operation. The first step in suturing constats in reconstructing the floor of each nostin by interrupted sutures of No coo plain catgut. The vermilloo border is constructed by suturing the nucous membrane of the lateral flaps together beneath the premarillary process

When the lip deformity is associated with a protruding premaxillary process, a submucous, oblique incuron, or a \ resection of the lower border of the named septum must be performed first to permit retraction of the premaxilla. The apparently shortened columella will lengthen with subsequent development. Care must be exercised to avoid removing a large section from the most septum and replacing the premaxillary process too far postenorly. Otherwise the tip of the note will be drawn in and the premaxilla rotated until the increor teeth erupt backward into the mouth. Under no conditions should the premanilary process be removed. Transfixing wires or sutures should not be used in the premaxilla and lateral alveolar process as they will greatly interfere with subsequent development of bone and teeth and often will produce an over-correction.

Horsley has performed 1-6 consecutive operations—84 for hardip and 92 for cleft palate without a death or serious complication.

Lyerly (42) states that in the repair of a harelip it is most important, for a pleusing result to correct the nasal deformity. The best time for operation on a harelip is during the first few days or weeks after birth.

In the infant, the protroding premarillary process can frequently be pushed back by thumb pressure and the molding of the repaired lip may be depended on to bring it still further back to its natural position. If the process is displaced extremely forward or the septum and processes have become counted as in older children, a submucous section or resection of the vomer and manl septum just back of the premaxillary process will be necessary This will allow the premaxillary process to be brought back to the proper allenment. The edges of the alveolar margin should be freshened and fixed in position until unon occurs. Occasionally the repaired lip will hold the premaxillary process in the proper position, but it is usually better to fix this process to the lateral processes by silver wires. In older children fixetion may be obtained by waring the teeth of the median processes to those of the lateral processes.

To mobilize the soft tissues in reconstruction of the hp and reshaping of the nose, it is necessary to resect the attachment of the ala of the nose and adjacent part of the hp from the superior maxillæ to a wide extent. The premaxiliary process should never be removed but should be used to form part of the lip The skin portion of this process should be trimmed to a quadrilateral or wedge shaped structure. The flaps of mucous membrane from the lateral processes should then be adjusted to each other in a smooth outline to form the lip border beneath the premaxillary process. In this plan there is no forcing of akin from the lateral part below the median process which may make the lip too long. In order to keep the skin sutures free from tension the muscle and mucous membrane should be sutured under the lip in separate layers. In the formation of the nostrils care should be taken to see that they are of normal and equal size on the two sides.

Veau and Plesser (68) describe the technique they are now using for double harelip, not as final but because others have seen the work and have

reported it.

The face in bilateral cleft lip is operated on in a stage of evolution and little faults that are apparent immediately after operation may become worse as time goes on. Therefore, methods and results should not be reported too early

In the closure of a single cleft lip and palate two fundamental procedures have been developed (t) an operation for the lip the technique of which is the same in both single and double cleft lips and (2) an operation for the nose which is the procedure of most importance in the closure of a double cleft.

In the first step a flap is turned from the septum and the side of the premarilla and the anterior two-thirds of the mazillar, side of the palate is raused completely as a flap with a prolongation going clear forward around the end of the mazilla. Then by completely everting the septial flap and the small flap from the anterior end of the mazilla and suturing them together the floor of the nose is constructed and lined. The posterior palate flap is awing over and anchored with one suture to the everted septal flap

Next the same side of the lip is closed by a method which includes complete freeing of the alar border and a straight-line closure down the lip The vernilion border from the prolabium is preserved and used for lining of the lip and a small part in the center is preserved for permanent repair (Apparently some of the vernilion of the lip is sarrificed). The lip is firmly anchored to the premaxilla by a wire which engages the muscle,

transfixes the premaxilla and is fastened over a gauze pad on the opposite side.

After this one sided operation the premarilla is, of course drawn far over to the closed side From three to four months later the opposite side is closed. This is done in the same way but a little difficulty is experienced because of scarring and

some change in the incision of the prolabium Again, however a small part of the prolabium vermilion is preserved as permanent.

In partial clefts or clefts with a small bridge of tissue across them, the repair is easier because there is apparently more material and the deformity is less. The bridges of tissue are opened and the repair is done as described for complete

After the closure of both sides the upper lip is well protruded because the premaxilla is clear out

in front of the maxilla.

Gillies and Kilner (25) believe that the original deformities of the nose and lip are often so complex that it is unreasonable to expect any one primary operation undertaken at a very early age to accomplish more than an aseptic closure with simple adjustment. This produces a sound basis for future work of a more cosmetic nature

The most common contour deformity seen in cases of harelp and cleft palate operated upon late is produced by flatness of the lip and depression of the nose. The flatness of the lip is most marked when the premarille is removed.

The nasal deformity is said to be dependent on the following factors (1) backward displacement of the maxille resulting from the scar tissue pull which follows successful closure of the palatal cleft (2) definite inderdevelopment of the normal amount of bone in the parts of the maxille which border on the pyriform opening (3) backward pressure of a tight lip and (4) definite failure in the forward growth of the nasal septum As a natural corollary to the backward displacement of the maxille the upper teeth come to lie well inside the teeth of the lower jaw mastication being thereby rendered inefficient and the lower lip ultra prominent.

The operative procedure that will be found most widely applicable to this type of lip and nose has been called the buccal inlay. It consists of the introduction of a Thiersch graft on a mould designed to free the lip and nose from the under lying retroposed maxillae. Freeing and loosening of the lip in this way allows the wearing of an upper denture sufficiently prominent to produce a normal contour and carrying well in advance of the natural position, artificial teeth which articulate normally with the lower teeth.

The results of this sample procedure are said to he remarkable. The whole character of the face is improved and final successful operations on the Im and nose become possible and are more easily accomplished

One of the most common cosmetic faults is found in cases of double barelin, for the so-called prolabium is often placed so far down the lip that the lobule of the pose is drawed down with it.

The mucous membrane of the premaxilla having failed to unite with that of the advancing lateral processes, forms a pseudovermillon border for the prolabium which has tempted many a surveyon to utilize it in the construction of the new lin margin to the permanent detriment of the natient.

The variability in the size of the prolabium appears to lend weight to the opinion that there is in all cases of cleft lip and palate a varying degree of non-development of tissue rather than merely a non-union of normally developed parts. From the point of view of plastic surgery of the lib. it is imperative in all cases of down-drawn nose tro to take the prolamal skin out of the lip and suture it sufficiently high on the free border of the sentum to allow the tip of the nose to come forward and

unward into normal position. A very pleasing "non-surrical" type of hp may be obtained by performing what Gillies and Kilner have called the "cursd a bow" operation. In principle this consists in discarding the existing akin-vermilson junction altogether and making a new curved lip border at a higher level. The result is an attractive short lip with full mucous membrane and at least a suggestion of a cupid s

In a few cases there has been so much surgical and developmental loss of tissue that nothing short of the grafting of a whole-thickness flap from the lower lip (Abbe a operation) is likely to result in any atriking improvement.

Mullen (50) has described the developmental anatomy of the orbicularis oris and has shown his findings with photomicrographs. The surgical importance of the muscle is also dwelled on, and a good understanding of the muscle may be obtained from his paper

HOLE

Blair and Brown (5) have presented a very complete account of their corrections of nasal de formities. The general plan of caring for patients with such deformities and detailed legends for 64 Illustrations are given. Included among the operations were total and partial nose reconstructions the formation of a nose from the forehead in a case of concenital absence of the entire nose operation for ocular hypertelorism (this is probably the first time surgical correction of this deformity has been reported), operation for hifd note, operation for advancement of the note, lin. and face, the care of fractures with old displace. ments and external scarring cartilage transplantation for depressed bridges, the removal of paraffinomata and renore the repair of radiation hurm and reconstruction of the columella.

In a shorter article Blair (a) describes and shows hy illustrations harelly deformities, saddle nose hump nose, partial losses and reconstruction. total reconstruction, and deformities resulting from fractions

A close study of wax or plaster casts and preliminary preparation of patterns for transplants are probably necessary steps if the best results are to be obtained

For the transplant for depressed bridges, autogenous fresh cartilage is used exclusively because it is thought to be the safest material.

In reducing the size of a hump pose chisels and bitum forcers are used in preference to rasps, and narrowing the nose is frequently found necessary Incisions are placed just within the nostrils and narallel with the free border. If the whole dorsum

is to be raised, incisions in both nostrils are connected across the tip of the columella.

For restoring losses of any age, pedicle flaps from the forehead are used almost exclusively The forehead tissue and skin is so superior to any other available that it is used regardless of the added facial scar. The pedicles are returned to accurate position and the defect is covered with a thick split graft. Such a graft gives ultimately as good a surface as a full-thickness craft. The details of repair are illustrated.

In total reconstruction of the nose practically all calculations are made by measurements of

patterns from built-up plaster casts.

The plan of repair consists always, if possible, in using a delayed flan taken from the forehead and lining the none by turning in delayed flaps from the surrounding skin. Flaps from the neck, chest, and arm are employed only if necessary

It is possible that most of the apparently unexplained marked nasal deformities are the result of untreated fractures sustained early in childhood. If not corrected such deformities frequently become worse with marked distortion of the septum and deviation of the name bones.

Lora (41) characterizes thmoplasty as millimetric surgery requiring an exceedingly precise and delicate technique, and above all, a correct appraisal of the deformity

When the malformations are multiple, correction of each one of them is indispensable for a

perfect final result.

Seven cases are shown in illustrations, 2 of hump nose 3 of saddle nose in which autogenous costal cartilage was used, 1 of large nose 1 of prominent tip, 1 of deviated nose, and 1 of combined deformity. The preparation, ansathesia, and technique of the procedures are well described. Loss concludes that careless treatment of the periosteum and perichondrum is the cause of intense reactions which jeopardize the final systhetic result.

Straatsma (62, 63 65) believes that, for successful reparative work on the nose, certain standard procedures must be followed. He states that small saddle noses can be corrected by shifting the tissues present, while for larger defects costal cartilage transplants are necessary. Foreign bodies, especially paraffin, are to be condemned.

It is almost impossible to repair losses of the skin or soft tissues by undermining and stretching

For tip losses the tube-pedicle graft has proved most satisfactory. For complete loss of the nose the method of Blair—the use of a forehead flap is best.

For the repair of a luctic nose in which there has been a wide loss of the lining a tubed flap from the arm supplies both the lining and the covering

Straatana uses the dermal graft in the repair of small saddle defects of the nose. This graft is deeplthelishized derma and is prepared by shaving off and discarding the top layers of the skin. The beaal layers are used as a subcutaneous graft. This type of graft was first introduced by vom Eitner and was called to Straatana's attention at the clink of Blair.

Malhiak (43) reports 2 cases of his correction of limited depressions of the nose and shows the procedure by diagrams. His method consists in the endonasal transposition of the lateral car flages together with the subcutaneous tissue and their impliantation into the dorsal depression

Free cartilagmous graits are unnecessary and the frequently deformed lateral cartilages are corrected.

Mootnick (49) states that autoplastic costal cartilage is the best maternal from the standpoint of ultimate healing and organization.

The perichondrium must be left always on one side of the rib Curing of the cartilage toward the perichondrium is due mainly to faulty technique.

In the use of a bone implant it is absolutely necessary to include the periosteum. When infection occurs a bone implant will surely be expelled whereas cartilage or ivory still may remain

en situ if the proper postoperative treatment is given

The use of paraffin did not prove successful and has now been abandoned. Gold and celluloid have been employed successfully by some sur geons, though they act as distinct foreign body irritants. Walrus tusk and vegetable ivory and other imitations of rvory are not tolerated by the body tissues, and should not be used.

Next to cartilage, ivory obtained from elephant's tusk is most suitable. Mootnick de scribes the operation and the handling of the ivory, and includes in his article the photographs of 4 patients for whom ivory was used. He does not state how long the transplants have been in place.

Israel (32) classifies and shows by illustration 6 types of external deformity. As a transplant for the correction of a depressed bridge rib cartilage has given him the best results.

The intranasal approach, or incision, should be selected because it avoids the formation of an

unsightly scar

Eitner (21) finds the correction for minor form changes of the tip of the nose very difficult. For cases of projecting nose tip he recommends raising of the nasal bridge and septum and the insertion of ivory

Halia (27) reports success from Hollander's method of injecting fat for the correction of saddle nose. Either animal or vegetable fat can be used. The fat changes to soap, and the tissue becomes inflamed. The fat is absorbed, but the autoplastic effect is not disturbed. Fat injection is not to be confused with the injection of paradin

Forero (22) illustrates his methods of correcting deflected, depressed and humped nasal bridges, deflection of the lower end of the septal cartilage and separated saddle cartilages.

Wodak (60) lists 8 errors in the form of the tap

of the nose and gives his method of correction, which includes the use of ivory transplants.

In a review of Sanvenero-Rossell's Plastic Surgery of the Nose (cf) Tanturi states that the book is based on the author's personal expertence, and that the results of the operations are well shown by photographs.

Clery (16) has given an interesting history of the development of rhinoplastic surgery

EYE

Blair (3) gives illustrations of 17 cases of various lexions or methods of repair of defects of the lids. Full thickness grafts for lids are preferably taken from behind the ear rather than from an upper lid. The technique of grafting extropion of both lids at one time and the com

bination of a stent" graft for a lower lyl with a wider application of the graft down over the cheek are shown. For certain cases of paralysis of the face with sagging of the lid live autorenous fascial strips are recommended. Photographs of a nationts for whom such string were used are shown. Fracture of the orbital border may result in depression of the entire bony floor with consecreent diplopis. This should be corrected early not only on account of the external appearance but also because of the associated disturbance of ocular function. Blair's method of elevating the bone from within the antrum is described, and roentrenograms of a ratient showing the displaced bone and its elevation and fixation by an odoform rack in the antrum are presented.

Blair Brown, and Hamm (6) state that corrective surgery about the inner cantins is more complex than corrective surgery in any other part of the coular suppendages. If the inner canthus is greatly displayed its correct replacement may be extremely difficult. Trauma accounts for most he displacements, but there is nearly always a deformity of this region in persons with congenital deformity or absence of the nose. Poorly executed plastic operations, paraffin injections, and neo-plasms account for loss of tissue in many cases.

Descriptions or diagrams of operations are shown. Blaft Brown and Hamm (2) have described with diagrams of the operation and photographs of the nationts the procedures they use for the correction of procis and encenthus. For procis. a live autorenous strip of fascia lata is employed in the form of a loop which is anchored above to the frontalis muscle and below to the edge of the tarnal plate. In encanthus, which is due to a convenital or acquired vertical shortness of the soft tissues, a plica is formed that gives an appear ent horizontal redundancy. In the correction flare are fashioned from this apparent redundancy It will then be found that there is never a real excess of tissue and that in some of the cases of acquired deformity the addition of more skin in the form of a graft may be necessary

In another article (11) Blair Brown, and Hamm show by fillustrations and report their treatment of a lexicon not included in the articles cited above (6.7) Hermangiomata of the face involving the eyelikis are thought to be best controlled by the implantation of gold radio seeds. Seeds of small content have been implanted directly in the lid without known damage to the eye. Because of the possible rapid destruction of tissue by these growths, very early treatment is recommended. The correction of ocular hyperrelocism or better the operative attempt to make the excessive distance between the eyes less noticeable is briefly described and the photograph of a patient subjected to such an operation is shown

Kilner (ac) reports a cases of ocular lesions with photographic records. The operations included the reconstruction of a contracted socket with Thierach grafts to permit the insertion of an artificial eye of normal size the use of Thierach grafts for the correction of ectronions due to lupus, burns, consenital deficiency of the palnebral skin, and loss of bony support due to extensive infra-orbital necroses and the correction of marked depression of the orbit with diplonia by means of fat transplants and elevation of the like by the excesion of skin within the hatrline. Six other cases are cited. Kilner states that the Blaskovic technique of shortening the levator is used for proxis and the procedure described by Blair the use of almora of autorenous live fascial stripe, is employed for facial peralysis.

Spaceth (61) states that the most difficult part
of plastic surgery is the careful planning necessary

for success

Living tissue grafts as well as formalized cartilage are considered. Although Spatch has repeatedly obtained good results from inografts of cartilage he has never had any success with inografts of sain. Epathelium must not be grafted upon the bulbar conjunctiva as the natural deequamations which form may cause a chrotic mechanical conjunctivitis. Naturally this does not apply if the eve is lost as an organ of vision.

In the correction of an extropion the scar is resected, the hid margins are sutured together and the graft is said in one piece over the defects. The internarginal adhesions are left in position for from three months to a year while massage is applied to the reconstructed life to prevent further circuitscal contraction. The correction of an extropion of one lid alone is best carried out by the Gillie inhan method.

Drooping of the outer canthal angle is estally corrected by a small inger life slap. In the slighter degrees of drooping Spacets a modification of the classical Fuchs tanorrhaphy gives good results. In epicanthus, a flags are outlined from the outer surface of the epicanthal fold. One flap is then placed in the lower life and the other in the upper life, as is done most necessially by Blair

Eyebrows may be replaced by a pedicied flap or a free akin graft from the opposite eyebrow a graft from the scalp. Eyebraws and the flap over the hair line, or best of all, a graft from the scalp. Eyehashes may be replaced by free skin grafts from the lower edge of the evebrow.

Buried white silk sutures have been repeatedly used for the correction of ptosis, for lagophthalmos and for old facial paralysis with obliquity of the

palpebral fissure.

Marquez (45) reports a case of blepharoplasty and presents a photograph of the final result. The original lesion is not shown but is described as being a carcinoma, the size of a hazelnut, situated on the outer half of the lower lid.

Following complete excision a flap taken from the rest of the lid and a part of the cheek over the

xygoma was switched across the defect.

Marquez says that he reports this case only to raise publicly the question of priority of this variety of blepharoplasty. It is certain to him and others that the operation was first described by Diego de Argumosa in 1833 rather than by Dieffenbach in 1835.

LIPS

Martin (40) describes a method of constructing an entire new lower lip and chin, a modification of an operation first described by Bernard in 1853 It is not justified in the presence of large multiple or bilateral metastases. No extensive neck dissections can be carried out during the procedure

A full thickness block of lip is excised the incision being kept at least r cm. clear of in volvement on each inde. Incisions are then made back along the lower border of the mandible and through the mucosa in the buccal fornix, and the lateral flaps reflected from the bone. To allow the flaps to be shifted toward the midline triangles are excised from above and lateral to the angle of the mouth on both aides. The mucosa of the flaps is saved to be turned out to form a part of the new vermilion border. Closure is made under the mandible by drawing the flaps toward the midline throughout the new buccal forms up the midline and up on both sides above the angles of the mouth.

In complete resection of the lip repair is made by turning down 2 Estlander flaps and uniting them in the midline. As this causes the mouth to become quite narrow a later plastic operation must be done to widen it.

In Peoplias (54) method total excision of the hip and most of the chin is done and the mucosa then undermined and dawn together in midline. The remaining skin of the chin is undermined and pulled up and triangles are removed from each side. The new skin border is satured to the mucosa and the triangular skin excisions are closed.

For the correction of large defects of the lower hp Parm (53) turns a skin flap from the chin in ward to form the inner side of the lower lip A skin flap from the abdomen first implanted on forearm, is carried up and attached to cover the defect and also the newly made chin defect.

Hutton (30) reports a case of complete upper lip reconstruction with the use of a scalp flap and Thiersch grafts with mucous membrane for lining Originally lining had been attempted with non hair bearing skin brought up on a flap from the chest, but this was not successful

For hip and face reconstructions in women scalp flaps are not utilizable Blair Brown, and Hamm (6) illustrate the use of a single pedicled—non tubed—forehead flap in the case of a patient whose lip was removed because of an old de generating \(\lambda \), ray keratosis

Blar, Brown, and Hamm (10) show their method of switching vermilion bordered lip flaps from the upper to the lower lip and of totally reconstructing the lower lip in the case of a man by the use of a double pedicled scalp flap

FACIAL PARALYSIS

In discussing the operative treatment of facial palsy, Ballance and Duel (r) state that the functional result of direct nerve suture or

anastomosis is never perfect.

First, a radical mastoid operation is done. Then, with extreme care the outer wall of the aqueduct is removed up to the region of the geniculate ganglion. The fibrous sheath is opened. The nerve is not transplanted outside the canal. The damaged ends are cut away and the gap is filled with a graft taken from the external respiratory nerve of Bell. Any nerve, sensor or motor may be used so long as it is of suitable suze. It is seldom that the gap is more than 5 mm. long. Gold leaf or platinum foil is placed over the graft and a flap of temporal muscle is brought down to fill the mastoid cavity.

With regard to the choice of the time to operate Bailance and Duel state that no delay is justifiable. In all early cases of mastoid involvement in flammatory or caused by direct injury operation should be done immediately the sconer it is done the easier it will be the less the damage to the nerve and the better the condition of the muscles Suppuration is not an indication for postpone ment of the operation on the nerve.

Proctocols of experiments are given with comments and the findings of final examinations clinical and physiological. The result obtained in a case of facial paralysis in an eight months-old baby is shown by a photograph. No mention is made of mechanical support of the face in cases of division of the perpheral branches of the nerve

in which intratemporal anastomosis would not be of advantage

The practical extense of the work of Ballance and Duel (19) so far as it is of interest to otol ogus, is the fact that the experiments led them to deprecate anastomesis of the facal nerve who noe of the adjacent nerves in the neck for the restoration of lost facial function and to advise, in place of this method, the employment of an autoplastic graft to bridge the gap from the proximal to be distal segment caused by inlury or disease.

Twelve patients and the results of operation in the cases of 4 of them are shown by photographs. In many instances it is too early to predict how complete the recovery will be. The cases are recorded to show the variety and extent of injury

The final outcome will be reported later

The area of destruction of the nerve varied in

length from 15 to 40 mm.

It seems certain that even most careful observation of the face by the aneasthetist during the operation for radden spann of the muscles as an indication of injury of the nerve is unreliable. Trauma severe enough to cause facial palsy may be indicated without any observed spasm, and while spasm may be informative at times when it is seen positively lack of such observation is not an accurate means of knowing whether when, or how extensive an injury to the facial nerve may have occurred.

Tress experiences point conclusively also to the advisability of uncovering the nerve at once whenever facial palsy immediately follows an operation on the mariold, in order to determine the critent of the damage. The rewards of such action are manifest. Compression or alight injuries may then be remedied by decompression with assurance that complete or nearly complete recovery will be obtained in many cases, whereas long delay will often result most unusualisatority.

In addition to such an occasional case, there will be many cases in which prompt inspection will disclose the fact that the acodest has destroyed or damaged a longer segment of nerve, immediate operation will permit decompression of the nerve above or below the point of injury intent to avert the dire consequences of prolonged inflammatory compression. A suitable graft may be introduced to replace the damaged segment at once. As there can be only alight attrophy of the muscles from non-use, a quick and more perfect recovery is assured.

Ballance and Duel definitely demonstrated in their animal experiments, that any autoplastic nerve graft, either motor or sensory and with the direction of the proximal and distal ends either maintained or reversed will successfully bridge the gap and restore the function of a divided facial nerve.

Whereas the external respiratory nerve of Bell was originally advocated as the source of the graft, Duel lists several reasons why an inter

costal nerve is the more practical.

Delay in operating may make all the difference

between success and failure.

Operating in a supportating field demands great subsequent care to prevent necroids of the graft until it is protected by healthy granulations.

Simple and exact rules for the care and dressing

of the area are given.

or in a area are given.

Shechan (59) reports the correction of a case of unflateral facial paralysis. First, fascial slings were put in to correct the distortion about the mouth mechanically. Then, the muscles about the notite mechanically. Then, the muscles about the cobit were re-animated by switching flaps of the temporal muscle into the orbicularis and a third flap of the temporal into the fiontials, together with a flap from the opposite active frontials. In the third stage the inequality due to strophy was corrected by the insertion of ermocyleierime (dermal) grafts to raise the general skin level. Finally several minor post occurring distinguishments were made.

MISCELL ANDOUGH

Sheehan (60) describes the successful treatment of a keloid on the back of a negros neck. The area was excessed and a tube of radium emanations was placed in the wound for from two to three hours before the wound was closed.

In a general discussion of full-thickness grafts, Padgett (51) reports their use for contractures about the neck, portwine stains of the checks, rhinophyma, and the replacement of eyebrows.

Havens (18) suggests placing 2 grafts under pedicled grafts, with one raw surface out to line the flap itself and one down on the base so that it may be well along toward healing when the flap is used.

In a report of the care of burns and the repair of their defects Blair Brown, and Hamm (8) illustrate the complete restoration of the contour of the neck and lower part of the face by the use of full-thickness grafts.

Blair (4) summarizes briefly the general

principles in 0 types of surface repair

Iglaner (31) gives the details of the use of

"negocoll and hominit in plastic surgery
strastma (6), reports with illustrations a case
of deformity of the jaw in which contour was
corrected with a dermal graft a case in which a
fib-cartilage transplant was used to build out a

chin, and a case in which a deficiency of the lower lip was corrected with a pedicled graft from the neck.

Rush and Rush (57) describe their method of making plaster casts for study in reparative

Straith (66) emphasizes the psychological aspects of plastic surgery and presents photographs of patients with deformity of the nose

chin, eye sockets ears, and face

Maliniak (44) summarizes his ideas of the indications for the surgical restoration of the aged face. The general principles of surgical correction of the aged face and neck include the removal of the redundant skin after its wide undermining through a periauricular incision which is easy to conceal. The atonic muscles are raised by subcutaneous loops of fascia or chromic catrut. The redundant skin of the evelids is removed by means of incisions placed in the natural fold of the upper evelid and under the cliary border of the lower evelid.

Dartigues (17) deals at some length with the present status of plastic and esthetic surgery and concludes that it is necessary for this type of work to arrive at an absolute equality with other

branches of medicine and surgery

Clasure (15) defends the position of sesthetic surgery mainly by photographs of patients before and after operation for hump nose depressed nasal bridge redundant skin of the lids and face, ntosis of the breasts, and ptosis of the abdominal

Fruehwald s (23) book illustrates his methods in cosmetic surgery of the nose and ear and in the removal of wrinkles and folds from the face. No before and after' photographs are shown because in Fruehwald's opinion, such photographs are of no particular value to the reader

Eckstein (20) demonstrates good results from the use of hard paraffin and claims that this method proved trustworthy in 1,000 cases Hospitalization is not necessary, and there is very little discomfort. The dangers of using soft paraffin are cited.

Kazanjian (34) has given a concise outline of his work on prosthesis of the mouth and jaws The descriptions and illustrations make this a valuable reference paper. In the same article Rowe and Young discuss simple and cleft palate prosthesis.

Kazanjian (33) reports, with photographs of the patients, 5 cases in which a double resection of the mandible was done. The results are excellent in all, but I of the patients is still under

treatment.

On the study models the location of the operation was determined as about the mandibu lar first molar region.

In addition to the preliminary work with models specific mandibular teeth are removed at least a month before the operation. If this step is left until a later date, the healing process will undoubtedly be considerably delayed. The next

step is the construction of splints.

An incision about 1 in. long was made along the lower borders of the mandible. The bone was exposed and separated from its periosteum on the buccal as well as the imgual aide. The operative exposure was extended to the buccal cavity and sectioning of the bone was done with a Gigli saw In order to have good control of the direction of the saw, a curved serrated hæmostat bent approximately to the contour of the mandible was clamped to the bone and the Gigli saw was introduced distally to the clamp. As one line was cut, the clamp was shifted forward according to the measurements and the sectioning repeated

As soon as the sectioning had been completed the hooked wire of the splint was introduced and the parts were fastened together. In addition intermaxillary elastics were applied to the maxillary and mandibular splints. Wire suturing at the lower border of the mandible was discarded as it seemed unnecessary and undoubtedly caused

irritation

During the healing of the bone it was necessary from time to time to make adjustments of the splint in order to improve the occlusion of the teeth.

One of the arguments advanced against this type of operation is that sound teeth are sacrificed This of course, is apparent. However the majority of the patients have previously lost some molars. Another argument presented against the operation is that the exposure of the oral cavity invites infection. Judging from the cases operated on and from clinical observations in cases of compound fracture this possibility need not be considered a contra indication.

Operations about the jaws mouth, and face may frequently be carried out under angesthesia produced by blocking the second and third divisions of the fifth nerve deep in at their exits from the cranial cavity. For some procedures this anasthesia may be the one of choice, and a wide range of usefulness is summarized by Brown (12)

The technique of the injection is not difficult, but the injection of novocain is not comparable

to the injection of alcohol for neuralgia.

The lower border of the zygoma is determined first and then the site of the condyle is ascertained by baying the nation) open or protrayle the lower inw. The condule is nearly always felt definitely. as it alides forward on the articular tubercle (eminence) The point of insertion of the needle is from 2 to 2 5 cm. in front of the trages just below the lower border of the regorns. From here it nesses between the compoid process and the condule of the lower law (signoid force) and just enterior to the articular tubercle

On its course inward to the pterwoold plate the needle passes through the parotid gland and the masseter temporal and external pterveoid muscles. It may encounter also the transverse facial, internal maxillary middle meningeal, and

masseteric arteries.

After gently striking the ptervend plate the point of the needle is carried up by short withdrawals and re-insertions, to the undersurface of the great wing of the sphenoid, which is about at a right angle to the pterveoid plate. From this stage of the procedure the undersurface of the orester wing is equally important as a landmark

as the pterveold plate itself To inject the third division of the nerve the needle is carried backward by short withdrawals and re-insertions against the pterygold plate and being held up against the sphenoid wing. When the posterior border of the plate is reached, the needle slips off and the patient usually experiences momentary severe pain. At this point the fluid is

infected To inject the second division of the nerve the needle is carried forward and the fluid is deposited

in the sphenomaxillary form. Pain and discomfort following the injection are rare. Patients have complained very little, and the average discomfort is less than that following the average peripheral injection. Stiffness of the jaws might be expected, especially if much hemorrhage occurred along the tract, but we do not believe that persistent stiffness has occurred in this series. One patient submitted to the inlection willingly a times another 3 times and 2 patients twice each.

Among the conditions and operations for which this type of amesthesia may be used are car cinoma of the antrum, carcinoma of the face carcinoma of the hp including cases in which switching of vermilion-bordered lip flaps is done carcinoma of the buccal mucosa block glandular dissections tumors of the upper and lower jaws open reductions and simple reductions with inter dental wiring of fractures of the upper and lower iaws bone grafting for non-union of fracture of the law double extentomy for deformity of the lower jaw drainage and osteotomies for osteomyelities of the laws radical resection for ankylosis of the isw estentomies and plastic operations on the face for the secondary repair of extensive face injury extractions of teeth (Im pacted and infected) emploration for a broken hypodermic needle, secondary repair in cases of carcinoms of the lin barelin, the removal of a bullet from the antrum, and porotld tumoes.

In 11 cases tracheotomy was probably avoided

by the use of this anisathena

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ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Cohen I: Ostsomyelitis of the Skull. Ass. Sarg 1933 xcvil, 733

The symptoms of esteemyrditis of the skull are larvely those of its complications. In the primary cases the condition is associated with malaine local pain, and fewer. In the secondary cases the onset is often overshadowed by the picture of the ness I sinus involvement. When the sinus involvement is cared for and there are no other complications, high fever is not the rule even when the extension of the ostenmyelitis is relatively widespread. The abscess of the scalp marking the site of an extension makes its anpearance insidiously. It lacks heat and may not be particularly tender. Prior to its appearance the pa tient often complains of reperalized headache. As extendings of the disease take place without seperal manifestations and without subjective symptoms. they must be watched for constantly This anniles also to intracranial complications. For a time bead ache and landtude may be the only signs of a brain abaces.

The usual roentgen picture is that of a "motheaten bone. Areas of rarefaction may be separated by several centimeters of normal appearing bone. In the absence of brain complications, the course of the disease is lows drawn out.

SAMUEL KANN, M.D.

ETE

Verhoeff, F. H., and King, M. J.: Leptotrichosis Conjunctive (Parinaud a Conjunctivitis): Ar tificial Cultivation of the Leptotriches in Three of Your Cases. Arch. Opini., 1933, 1s, 701

The authors define Parliaud's conjunctivitis as a clinical and histological entity due to infection of the conjunctiva with a leptothrix and associated with inflammatory enlargement of the pre-auticular riand.

In three of four recent cases they succeeded in obtaining the infecting organism in pure culture on artificial media. In each of these cases the clinical and histological features were typical and the organ issue of the comparated in the tissues by special staining methods. For the first growths, special media and conditions of partial oxygen tension were required, but when ours obtained the organisms gree fairly well on ordinary media.

In rabbits and guines pigs, inoculations of the organisms into the conjunctive produced lesions clinically and histologically similar to those of the

disease in human beings, but the lesions quickly disappeared and were not associated with enlarge ment of the regional lymph glands. The one at tempt made to recover the organisms from an experimental lesion was successful.

Legral, McCor MD

Lecarrère, J. L.: Our Technique of Operating en Cataract by "Electrodiaphakia" (Nuestra tic nica operatoria de la catarata por electrodial-

nics operatoria de la catarara por electrodiafaquia") Artà. Fac. és med. és Zerapesa, 933 5, 533. Following a review of various techniques for the removal of the crystalline lens with pincera, needles.

or books, the author describes a new method which is carried out by means of electricity and is called electrodianhable. This method is defined as an electropenetration and separation of the lens. An electrical bistoury is used with the ordinary disthermy appearatus. The advantages of the procedure are that penetration of the less can be secured without pressure and with resulting atmos anherence. and there is little or no injury to the surrounding parts. The high-frequency apparatus allows the operator to know the exact intensity of the current used at the moment the circult is closed. The intensity of the current most be sufficient to cause immediate adherence of the cataract otherwise the operation is difficult and hazardous. The optimum current is maintained by a control which can be set at the point necessary to produce immediate coardlation. This point has been determined by experiments on animals. The technique and apparatus are described in detail and shown by illustrations.

A. E. TATL M.D.

King, E. Fr. A Series of Thirty-One Cases of Retinal Detachment Treated by Diathermy Bril J. Ophik., 1933, xvii, 187

The Gonin operation for retinal detachment was not performed at Moorfield Eye Hospital in 1996. An analysis of the results by Shapland showed that 75 per cent of the first soo cases were curred (full field and no detachment) at the time the patient left the hospital. However in a few of these cases a recurrence developed later the incidence of the being therefore somewhat reduced. Because of the distribution of the control of the control of the control of the operation, and the possibility of complication, the distribution of multiple trephilains with chemical cauterisations was introduced. Of the first 30 cases treated by the Guist operation, a cure was obtained in 45 per cent. In the next 45 cases

the incidence of favorable results was only 23 8 per cent. Technical difficulties in the placing of the trephine openings make it doubtful whether the

Guist operation will ever become popular

The use of diathermy in the treatment of retinal detachment has been advocated chiefly by Weve and Larsson. Weve attempts to seal the hole under ophthalmoscopic control with the diathermy needle and a unipolar disthermy current of from 40 to 50 ms. In the series of cases reported by King the method of Larmon was used exclusively. In the attempt made to produce a diffuse choroiditis without active interference within the vitreous this is analogous to the Gust operation except that the agent used is disthermy instead of caustic potash. After the usual pre-operative preparation and dissection of the conjunctival flap over the previously localized tear the active electrode (a platinum wire 15 in. long with a o 66-mm. ball at the end) is placed over the area to be treated and the current turned on for five seconds. The indifferent electrode is bandaged to the arm or leg. The strength of current used is that sufficient to give a reading of from 0 75 to 1 ampere when the active and indiffer ent electrodes are held together. These applications are repeated over the area of dry sclera to be treated with an area of about 1 5 mm. between them.

Of the 31 cases treated at Moorfields by this method, 18 (58 so per cent) were cured. No selection was made. The figures are comparable to those of Larason, who obtained a cure in 50 per cent of

unselected cases.

In the author's opinion the easier technique and favorable results of the operation described seem to render it preferable to the Gonin and Guist methods. As in the other types of operations the absence of a retinal tear and long duration of the detachment render the prognosis less favorable.

WILLIAM A MARK JR. M.D.

MOUTH

Veau, V and Plessler P: Treatment of Double Harellp (Traitement du bec-de-lièvre bilatéral total) J de chir., 1932 zl, 321

The face in bilateral cleft lip is operated on in a stage of evolution and little faults that are apparent immediately after operation may become worse as times goes on. Therefore methods and results should not be reported too early. The technique described by the authors in this article is not reported as fani, but is presented now after six years, because others have seen the work and have described it.

In the closure of a single cleft lip and palate (wo fundamental procedures have been developed (1) an operation for the lip, which is the same for both single and double cleft lips, and (2) an operation for the nose, which is the procedure of most importance in the closure of a double cleft.

In the first step a flap is turned from the septum and the side of the premaxilla and the anterior

two-thirds of the maxillary side of the palate is raised completely as a flap with a prolongation going clear around the end of the maxilla. Then, by completely everting the septal flap and the small flap from the anterior end of the maxilla and suturing them together the floor of the nose is constructed and lined. The posterior palate flap is swung over and anchored with one suture to the everted septal flap

Next, the same side of the lip is closed by a method which includes complete freeing of the slar border and a straight line closure down the lip. The ver milion from the prolabium is preserved and used for lining of the lip and a small part in the center is retained for permanent repair. The lip is firmly anchored to the premarilla by a wire which engages the muscle, transfires the premarilla, and is fastened over a gause pad on the opposite side.

After this one-sided operation the premaxilla is of course, drawn far over to the closed side. From three to four months later the opposite side is closed. This is done in the same way but a little difficulty is experienced because of scarring and some change in the incison of the prolabium. Again, however a small part of the prolabium ver

million is preserved as permanent.

In partial defts or clefts with a small bridge of tissue across them the repart is easier because there is apparently more material and the deformity is less. The bridges of tissue are opened and the repair is done as described for the complete defts.

After the closure of both sides the upper hp is well protruded because the premaxills is clear out in front of the maxills. JAMES BARRETT BROWN M.D.

Arnett, J. H., and Ennia, L. M. Dental Infection and Systemic Disease. A Review of the Litera ture and a Study of 833 College Studenta, Including Complete Dental Roentgen Ray Exsmination. Am. J. M. Sc., 1933. cixxxy, 777

A review of the literature on the relation of dental infection to systemic disease is followed by a report of complete and careful clinical and roentgen-ray examinations of the teeth of a typical group of college students.

Dental caries was found in 83 per cent of the students, with an average of three and two-tenths carlous teeth per person. These figures do not in clode teeth which had been restored with fillings. More than one-third of the cavitles were disclosed by roentgen-ray examination after they had been overlooked at previous clinical examination.

Periapical granuloms was found in 10.8 per cent of the atudents and in 0.8 per cent of all teeth examined. In the demonstration of this condition also roenigen ray examination was more efficient than clinical examination. Rheumatism chores or heart trouble was present in 2.0 per cent of the students with granuloma and in 3 per cent of those without granuloma. Students without granuloma were as frequently underweight as those with granuloma. Albuminura was more common in the

cases of those with granuloms. Electrocardyographs of 160 women showed a normal tracing more fre mently in cases in which granuloms was present than in cases in which dental infection was shoont In conclusion the authors call attention to the fact that these studies were made on youthful persons, and that many of the diseases attributed to dental infection are found most often in persons past thirty five years of age in whom dental in fertion may have been present over a longer period

The investigation shows the value of complete

dental carles among the youth of America. CHINTER T FATTURE DDS

mentoen ray examinations and the prevalence of MECK

Harrington C. R., Gardiner Hill, H., and Dunhill, T. P.: Discussion on the Use of Iodine Com. pounds in the Treatment of Thyrold Disease.

HARRICON stated that the widely divergent views on the use of sodine in disorders of the thyroid warrant a consideration of the factors remonsible for the development of this form of treatment. He cited the administration of burnt sponge, the later use of lodine as advised by Coindet, and the method of iodine therapy advocated by Plummer which is generally accepted.

GARDDIER HILL, in discussing the clinical aspects of the administration of lodine in thyroid disease. stated that no improvement was noted in hypothymid states. Indine appears to have little or no therapeutic effect on the nodular gland, but nearly all authorities agree that in regions where goiter is endemic iodine prophylazis is invaluable. The majority of physicians agree that iodine produces striking immediate improvement in Graves' disease

As a rule marked subjective and objective imposes. ment is noted during the first fortnight after the institution of the treatment. The siand hardens its vascularity is considerably diminished and histological sections at this stage show a return of colloid in the vesicles. This reaction should be taken advantage of in the preparation of the nations for operation. Cases of podular softer treated with lodine apparently run a less toxic course then those not so treated. After thyrolder tomy any thyroid tissue remaining tends to hyper trophy so that periodical doses of \ ray irradiation elve more estistactory results

DUNITILL stated that indine has a definite value in the treatment of thyroid disease, but the amount given should be less in cases of podular soiter than in cases of primarily toxic softer. He believes that the loding remited depends upon the amount and condition of the functioning theroid enithelium.

M Housest Bases M D

Maxwell J., and Hote, J C.: The Incidence of Laryndeal Cancer Lasor 1011 cerviv 1061.

The author presents statistics from the Registrar General's annual report regarding cancer of the larynx, tongue, and crophagus during a twenty year period. The incidence of cancer of the resonharus has shown no change in relation to cancer in general and the incidence of cancer of the tongue has de creased. On the other hand, the incidence of cancer of the larvny has increased from 1 so to 1 or per cent. It is therefore possible that the incidence of cancer of the lower part of the reminatory tract has also increased, particularly if the inhalation of ir ritants is a factor in the origin of malignancy in the respiratory system. The statistics show no gross variation in the yearly incidence. E. S. PLATT M.D.

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS; CRANIAL NERVES

Valdoni P: The Use of Low Pressure and the In halation of Carbon Diordie in Indirect Resmostrais in Cranlocerebral Surgery (Limpiego dell'igopressione e delle Inalazioni di andidei car bonica nell emotasi induretta in chirurgia cranlocerebrale) Clis chr., 1933 is, 373.

Valdoni studied experimentally the effect of the inhalation of air under low atmospheric pressure and of carbon dioxide on the venous and arterial pressure and hamorrhage during cranlocerebral He reports two clinical cases which operations. confirmed his experimental observations. He observed that the inhalation of air under such con ditions causes a decrease in the negative intra plears) pressure and a lowering of the arterial and venous pressures. The decrease in the venous pressure is a direct result of the lowering of the intraplearal tension since the low intraplearal pressure leads to a decrease in the pressure in the large venous trunks of the neck and in the adjoining veins, particularly the cerebral veins. In this way venous hemorrhage during craniocerebral operation is reduced.

In a case in which a cranual operation was performed with the patient breathing rarefied air the venous hemorrhage was diminished, but the method was disadvantageous as the respirations were slow deep and labored and the arterial pressure was re

duced.

The inhalation of carbon dloude caused a lower ing of the intrapleural pressure which was less marked than that produced by rarefied air. The venous pressure was reduced, but the arterial presure was practically unchanged. The respiration was deeper and somewhat more rapid.

When carbon dioxide was administered during the excision of a temporal lobe tumor there was a reduction of the venous hemorrhage without an appreciable increase in the arterial pressure and without respiratory difficulty

PRIER A. ROSI, M.D.

Frazier C. H and Alpers, B J Meningeal Fibroblastomata of the Cerebrum. A Clinicopathological Analysis of Serenty Fire Cases. Arch Versel & Psychist. 1933 xxis, 935

Of the seventy five cases of meningeal fibroblastomata reviewed by the authors, the tumor was located in the frontal area of the brain in twenty two, in the precentral area in eighteen, and in the parietal area in eighteen

Such tumors of the frontal region are apt to reach a large size without causing definite localizing symp-

toms. The only constant finding is increased intracranial pressure with its usual train of symptoms. In the cases reviewed mental changes due to frontal tumors were not infrequent. As only one gumma of the brain was found at operation in a period of more than thirty years, operation was never withheld in the presence of a positive blood or spinal find! Wassermann reaction when definite symptoms of tumor were apparent. Frontal tumors are apt to cause neighborhood symptoms because of encroachment on other areas.

In the cases of tumor in the precentral area there was evidence of subjective or objective weakness. Jacksonian convulsions with an associated monoplega or hemplegas in a case with increased intractantal pressure in the absence of cuts in the vasual field probably indicate a tumor involving the pre-

central gyrus.

The localization of temporal fibroblastomata capecially on the right side may be almost impossible even when the patient has all of the signs and symptoms of increased intracranial pressure. Hyperostosis of the skull is relatively frequent in this situation. When there is a cut in the visual field the differentiation of tumors of the temporal and occipital lobes is sided by the fact that in cases of tumor of the occipital lobe central vision is always preserved whereas in cases of tumor of the temporal lobe it may be lost. In the presence of a homony mous hemisnopsia with weakness and a phasis of a motor or auditory type the diagnosis cannot be questioned.

Of the cases reviewed, the parietal lobe was in volved in only eight. Loss of stereognostic sense was a sign of great importance The intracranial pressure may be very high or very low. The tumors frequently give rise to motor symptoms because of their encreachment on the adiacent areas.

In the nane cases of occipital lobe tumors localization was nearly impossible except when field defects depends on the position of the tumor. A tumor grow was measily and low down in the occipital region so that it soon compresses or invades the striate area produces a distinct hemianopsia from the onset, whereas a tumor which compresses the occipital lobe on its lateral aspect is prone to cause a field defect that is more irregular Beades field defects, tumors in this region may give rise to cerebellar symptoms due to pressure through the tentorium.

To explain the preponderance of tumors in the anterior portion of the brain an increased number of arachnoid villi may be hypothecated but this has not yet been proved. Arachnoid villi are frequently found in the midline, and many of them are adherent

to the falx.

Grossly the tumor look much slite. They have a thin fibrom enveloping capule. They are usually rounded, but have a lobulated surface. Frequently they are cyatic, and most of them have a very acte quate blood supply. As a rule they are adherent to the dura, but they do not penetrate the underlying pia which they posts before them. The cut surfaces vary greatly and the microscopic picture may be as variable as that of the gilomatis. Overlying hyper cotoses are of great ald in the disposals. The mode

of their formation is not definitely understood.

It is now generally accepted that these tumors are derived from the arachnoid. Whether they are derived from mesothelial cells or from fibroblasts is a matter of dispute. The authors favor calling them "memingeal fibroblastomata." because they attribute them to fibroblasts.

I four W. Farry, M.D.

Lour W. Farry, M.D.

Argafiaraz, R., and Sená, J. A.: Orbito-Ocular Champse in Fractures of the Skull (Alterschones Orbito-oculares in las fractures cranesnas). Seme m61, 031, 31, 78

Orbito-ocular changes are so common and of such importance in cases of fracture of the skull that an ophthalmoscopic examination should be made in every case of bend injury

The most serious lesions from the standpoint of their effect on vision are lesions of the optic nerve and the pulsating exophthalmos due to aneurism

of the cavoid arrery in the cavemous sinus.

Fractures of the orbit may be either direct or indirect that is, they may affect the orbit alone or
radiate from fractures of the anterior middle, or
petitrior facial fosse. They are seldom the result
of builts wounds of the abril.

The eye symptoms of skull fractures may be

r Visual, such as amblyopia and amaurosis due

to lexions of the optic nerve.

2 Motor such as paralysis of the eye muscles resulting from injury to the muscles or to the nerves supplying them.
5 Senory such as amesthesias, neuralrias, and

trophic lesions resulting from lesions of the ophthalmic branch of the trigeminal nerva.

A Mechanical, such as extravasations of blood

in the orbit or conjunctiva, enophthalmos, ex

in the orbit or conjunctive, enophthalmos, enophthalmos, and pulsating emophthalmos.

The authors are of the opinion that in poissting exophitalmos the ansurism of the internal carotic artery is produced by a spicule of bone introduced into the cavernoss sinus and injuring the wall of the artery either momentarily or slowly.

Enowledge of the anatomy of the optic nerve and its canal is necessary for a thorough understanding of lesions of the optic nerve and the mechanism by which they are produced. Among the mechanisms

are

1 Tearing of the bundles of optic nerve fibers
by transient or permanent diastasis of bone.

 transient or permanent massass of tube.
 Penetration of the optic nerve by a spicule of hone. 3 Pressure on the nerve by a fragment of bone 4. Pressure on the nerve by hæmorrhage result

ing from injury to one of its vessels.

Substachnold harmatoms

 Detachment of the nerve from the evehall at the cribriform foramen.

The visual symptoms (usually accompanied by other symptoms of fracture of the skull) differ with the lexion of the perve. They include

1 Immediate and incurable amaurosis due to

crushing or tearing of the optic nerve.

the nerve sheath which is followed by partial recovery

1. Early amaurosis which soon disappears be-

3. Early amaurous which soon disappears because of early absorption of a hermatoma, but later recurs because of a hyperostosis or a scar in the meninges which fixes the nerve in the akull.

When a certain degree of vision remains it is usually restricted to a limited area of the fundua. Various types of lesions are found in the fundua, but are not considered typical. In cases of optic nervy lesions the behavior of the pupils is of importance.

The prognosis in these cases of optic nerve injury is generally poor. It is good in only 25 per cent of the cases, and is fair in another 25 per cent.

In the presence of injuries to the eyeball the diag nosis is difficult. However, examination of the eyeball, especially of the pupil and funding, and roent genegrams of the orbit and optic canal are of great and

Treatment is very unsatisfactory. Worms has recently advised decompressive trephination of the optic canal by the orbital route in cases of hematoma of the nerve sheath. The authors have found this procedure harmless, but consider the operative field too deep and restricted. However they are of the option that it is indicated in cases of neutition to sinustite sat theoretically it is more attractory than opening of the subenoidal sinus.

The author report were case of annurous associated with fracture of the shull. In free, the lijuries were mutation as automobile accident and in one from a blow over the orisk. In all of the case the trauma was followed by loss of consciousness, voniting, other symptoms of fracture of the stull, and immediate loss of vision. In one case but was decompressive trephination was attempted but was decompressive trephination was attempted was too limited for safety. In all of the cases room generous showed the optic cannis to be pathologi-

In the first two cases there was complete loss of vision with no improvement. In the third case being was pulsating-group-thinking with partial loss of vision and symptoms typical of aneurism of the careful active in the caremons sints. Vision was preserved only in an inferomedial sector. Mitro-coeffic of probably lestic origin was found, but the Waser mann reaction was anguive. All of the symptom improved slightly under treatment by rest, periodic

compression of the carotid artery in the neck and weekly injections of a sterile solution of 10 per cent relatin.

W. H. Martinez, M.D.

Reichert, F. L.: Tympanic Planus Neuralija; True Tic Douloureur of the Ear or So-Called Genken late Ganglion Neuralija Care Effected by Intracranial Section of the Glossopharyngeal Nerve. J. As. M. Al.: 1933, 9, 1744.

The author reports in detail a case of partial or Jacobson s plexus tic douloureux of the left glossopharyngeal nerve. The patient was a woman tele phone operator thirty-one years of age who com plained of severe pain in the left ear Eleven years previously she had been obliged to discontinue the use of ear phones for a short time because of pain in the same ear. The recent attack began with a sensation of drawing and discomfort in the upper part of the face on the left side, which gradually ex tended from the cheek to the forehead and occinital region. About four months later after an attack of corvas, sharp stabbing pains occurred deep in the left external auditory canal. Following injection of the sphenopalatine ganglion with procain hydrochloride, the paroxysms of pain were relieved for twelve days. At the end of that time the pain re curred and additional injections were without benefit The patient also experienced itching of the upper anterior wall of the left auditory meatus aching pains in the left side of the face and nose, evehall and paneto-occipital area, and sensitiveness in the mastold and pretragal regions. The attacks occurred spontaneously During the paroxyams salivation was absent.

All possible fool of infection were enadicated withour benefit. Injection of the sphenopalistine gangilion and the left sympathetic chain at the seventh cryical and the first and second thoracic vertebrafulled to rive relief

The pre-operative diagnosis was geniculate gan glion neuralgia or geniculate tic douloureux.

Under local anarathesis the left seventh, eighth niltands and tenth serves were identified by a unilateral cerebellar approach. Slight manipulation of the bundle containing the seventh and eighth netwes caused pain in the auditory canal localized to the cartiflaginous portion of the anterior wall of the cartiflaginous portion of the anterior wall of the carternal auditory measus. When the ninth nervo was touched four times and the paroxymal pain in the ear identical with the tic was reproduced each time. After section of this nerve the patient left inch alternal wall of the arternal auditory canal.

Four months after the operation the patient still remained free from symptoms. Anesthesis of the left ear or its extend cand could not be demon strated after the operation. Sensation was lost over the left soft palate and over the pharyngeal wall from a cm. within the entachian tube to the tip of the epigloids and over the posterior third of the

tongue where taste was also absent.

Studies were conducted on the salivary secretion in this case, two other cases with intracranial division of the ninth nerve, and four cases with avulsion of the chords tympeni distal to the facial nerve. The author was convinced that the secretory fibers of the salivary glands accompany both the sweeth and the ninth nerves.

He concludes that there are at least two types of neuralgia or tic douloureux of the glossopharyngeal nerve. The more commonly described type is char acterized by paroxysmal attacks of lancinating pain which usually starts in the tonsillar region or the hase of the tongue, frequently radiates to the ear, and is often accompanied by salivation and induced by eating talking swallowing or other movements of the pharynx and tongue. The more rare type, that in the case reported in this article, is a neural gra of the tympanic branch of the glossopharyngeal nerve which in the past has been erroneously re parded as a tic of the sensory filaments of the seventh nerve, commonly known as geniculate ganglion neuralgas. It is characterized by paroxyams of stabbing pain in the external auditory meatus which are often associated with other pains in the face and postsuricular region, but are not induced by movements of the tongue or pharynx and are not associated with salivation.

Intracranial division of the glossopharyngeal nerve had cured both types.

ROBERT ZOLLINGER M.D.

MISCELLANEOUS

Leary T and Edwards, E. A.: The Subdural Space and Its Linings. Arch. Neurol & Psychiat., 1933 xxix, 691

The authors carried out a comparative investigation of the linings of the serous cavities and the subdural space. Their interest was aroused when they discovered great differences between the functions and the reactions of the arachnoid and the dura in the study of a group of cases of subdural haemor rhages.

They removed sheets of the lining layer of cells from the surfaces of the various serous cavities. This proved to be a very satisfactory and depend able method of studying the cells. They found the dura to be unlike the other serous spaces. scrapings from the dura had the microscopic appearance of fibroblasts and showed varying degrees of fibril formation Good specimens of the pla arachnold obtained from the region of the cauda equina showed a continuous layer of flattened cells with oval vesicular nuclei. The authors believe that the origin of the membranes lining the subdural space probably explains the differences in the char acter of the two surfaces. They review experimental work which indicated that the piz arachnold is of ectodermic origin. They conclude that this explains why the pia-arachnoid is relatively impermeable and why it differs from the mesothellum covering organs in serous spaces. They believe that the

formation of the supdaral space embryosogically might be explained by the separation of the surface covered by these cells from a layer of mesenchyma which becomes the inner layer of dum.

They account for the relative simplicity of the draw for theory that the skull with its lining forms at the country that the skull with its lining forms at the covering, the pis starchood. This would capital the readhest of the dars to produce adhestors when the attachood barrier is lainted. The authors compare the dars with its naked fibrohastic cells to exposed councetive thuse suffaces prepared to form granulations and adhesions unless retardined. On this basis not only the formation, but the persistence, of the subdural space makes it necessary to suppose an opposing surface covered by cells capable of perventing closure of the space by growth from the dura.

The authors conclude that the dura is lined by fibroblastic tissue, and that the subdural space does not correspond to the scrout spaces. They believe that the arachnoid is probably covered with cells of excloremal origin.

Rosert Zaurscon, M.D.

Tidewell, F., and Sear H. R.: Neuroblastomat Some Experiences at the Royal Alexandra Hospital for Children. Australia & Ver Italiand J Surg. 1933 il., 500.

This article is in two parts. In the first part

findings in two cases of neuroblastoms and in the second part Sear reports on the rountgenological aspects of eight cases.

The condition occurs in young children and is usually fatal within a year. The symptoms are due to the effects of the primary mallenant admenal tumor and its metestases. This tumor was formerly classed as an adrenal sarcoma, but is now called It produces a large abdominal neuroblastoma. mass. Secondary deposits in the skull produce a characteristic \ ray appearance due to hony subdural, and anhorringes! masses and cause immitteds and ecchymoses from invasion of the orbits. In the extremities, they produce a characteristic \-ray parture due to the invasion of hope and marrow They also cause a cakness with inability to walk. anemia, and cachexia. They invade and enlared the lymph slands. As a rule the condition is accomnamed by a mild fever and occasionally by mental symptoms such as irritability and restleamess.

Somptons such as a radiality and reseasance as Recenterography of the skull discloses a verncated appearance of the calvarium and orbits, and the control of the calvarium and orbits, on the crucial of the calvarium and orbits, the calvarium and the calvarium and the calvarium of the crucial bones from the periodrom, Recentgere camination of the long bones about a patche worm-esten appearance throughout with, at later stages, uniformly transardiant areas of varying size and periodiths along the greater part of the shalls of several hores.

DATE IONE INPARTATE M.D.

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Lee B J t End Results in the Treatment of Cancer of the Breast by Radical Surgery Combined with Pre Operative and Postoperative Irradiation 4m / Surg., 1933 23, 495

The author discusses carcinoms of the breast on the basis of 217 proved cases operated upon in the

period from 1916 to 1927

The incidence of the condition was highest at percent, between the ages of forty five and fifty years, and next highest, so per cent, between the ages of forty and forty five years. Twenty five per cent of the patients were forty years of age or younger. The youngest patient was twenty-seven years old.

One third of the tumors were located in the upper outer quadrant of the breast and half that number were in the central segment. The sites involved next most frequently were the upper central and upper inner segments. Practically two-thirds of the

tumors were in the upper segments.

In a much larger series of cases the first symptom noted by 75 per cent of the patients was a lump in the breast, but in x of x cases in this series the first symptom referable to the breast was s sticking needle like pain. In 5 per cent of this series there was a diffuse enlargement of the breast. The next most common first sign was retraction. Not infrequently the first sign noted by the patient was a lump in the azilla. In x of every 70 cases the first sign was bleeding of the nipple.

In about 1 per cent of cases the carrinoma is of the inflammatory type and must be differentiated from absects of the breast. Cardinoma of this type is a highly cellular rapidly growing very malignant tumor In co. per cent of the cases the first algo of the condition was aveiling of the arm. About 10 per cent of cases of mammany cardinoma even when recognized early, are probably hopeless from the recognized early, are probably hopeless from the surgical standpoint from the outset. However in many of the surgically hopeless cases the tumor is radiosentitive. Therefore irradiation should be used more promptly and frequently. In op per cent of the cases early surgical treatment will yield good end results.

The author regards a case as operable when the tumor is not fixed to the chost wall. When there are wide multiple entaneous nodules around the original site of the burse when the srm is swollen or painful and there is criterious stillary metastasis, when the supraclavioular nodes are invaded, and when there is distant metastasis to the chest or bones, the condition is inoperable and radical amputation should be withheld. In case of advanced mammary carrinoma radical surgical procedures shorten life and are apt to brung discredit to surgery. The practice

of obtaining a specimen for histological examination by incision into the tumor is undesarable. A small specimen may be obtained safely by the aspiration or the punch technique

In the 217 cases reviewed, local excision was done to times prior to radical mastectomy in 7 cases the radical surgery immediately followed the local re moval. In 12 cases the local excusion preceded the radical procedure by from one day to three weeks. The delay did not seem to influence the prognous. The tumor should be widely excised not cut into

After operation in the author's cases the arm is kept at a right angle to the trunk. Active and passive motion of the arm is encouraged at the end of twenty four hours. The petient is allowed out of bed after four or five days. The drains are removed on the third day and the sutures on the sixth or

seventh day

The present plan of pre-operative irradiation consists in giving 65 or rentigen units using high-voltage x-rays over the breast and drainage areas and giving treatments on each of two successive days. Operation is performed from two to four days after the last irradiation. The tumor irradiated in this manner will not show the histological changes which formerly occurred during the delay of six weeks but the dose is delivered and the cells are affected biologically.

Postoperative irradiation is given four weeks after the operation, when the wound is firmly healed. A high voltage cycle each treatment consisting of 750 roentigen units, is given over the breast and dramage areas on auccessive or alternate days. If the operation showed the lymph nodes to be uninvolved only cycle is given. If the lymph glands were involved, I or 2 authorque to the proper particular area of the control of the protreatment each over the upper anterior upper poterior and lateral arillary regions. The irradiation is directed toward the supractive unitarial where the first metastasia is likely to occur.

Of the 217 patients treated by radical mastectomy plus pre-operative and postoperative irradiation, 41 per cent were alive and well five years after the treatment of 130 35 per cent were alive and well after seven years and of 75 22 per cent were alive

and well after ten years.

The prognosis was most favorable in cases of tumor in the upper inner segment of the breast. It was almost equally good when the tumor occupied the central breast segment. It was poorest when the tumor was in the upper central segment or the lower inner or lower outer segment.

Of the patients forty years of age or under 27 per cent were alive and well at the end of five years, whereas of those over forty years of age 45 per cent were alive and well at the end of five years 320 Of 76 pa lymph no

Of 76 patients without involvement of the arillary lymph nodes, 72 per cent were allre and well at the end of five years, whereas of 103 patients with inrolvement of these nodes, only 23 were allre and well at the end of five years. Of the 7 patients who were pregnant at the time of the discovery of the car chooms, pone lived for five years and only 1 survited for they were.

The postoperative mortality was 0.9 per cent. The author's clinical index of multipancy is discussed in detail, and figures are given to show the dependability of histological grading of the tumors, which was done in Science. Eart O. L. Lumors, Mr.

TRACHEA, LUNGS, AND PLEURA

Proust, R.: Section of Intrapleural Bands and Adhesions in the Treatment of Pulmonary Tuberculosis (La section des brides et le détachement des adherences intra-pleurales dans le traitement de la tuberculose pulmonaire)

Since Jacobaeus introduced his thoracoscope for the sectioning of intrapleural adhesions in 1913 er perfeder has demonstrated the superiority of the use of this instrument over thoracotomy and parietal separation of the pleurs.

In a certain number of cases of pollmonary tuber culouis preumothants proves indirections because adhesions between the long and parietal plears prevent cavities from collapsing. If the adhesions can be sectioned suspitionly and without hemorrhage to allow effacement of the cavities, a cure may be an ticipated.

The exact location of the bands or adhesions must fint be established by means of a stemoscopic reent genogram. After the topography of the lessons has been determined the chest wall is infiltrated with norocain, a sidn incision is made, and the trocar of the thoracoscope is introduced. To avoid encounter ing the hung, the region is first explored with a blunt needle. The thoracoscope is then inserted and a general view of the cavity is obtained all of the important landmarks being identified. These landmarks have been carefully studied by Cova and are aboun to his atla.

For the accommodation of a cuntry mother trocer is introduced at the most favorable point for attacking the adhesions. To determine this point the chest wall is pressed upon by an assistant, the bulga being observed by the operator through the thoracoccope, or if the room is dark, the point of attachment of the adhesion is seen by transfillumina thou as a bright moto on the chest wall.

The adherions should be sectioned close to their pariest extremities because they frequently consist unlarge part of stretched lung tissue. Before they are stateded with the thermocuntery the tissue is desiccated by a diathermy current. This obviates this formation of vapors with obscure the view The preliminary desication is essential even when the electrical infel is substituted for the thermocuntery Ansathesis is obtained by infiltrating the adhesion with a 1 200 solution of povocain.

Possible compilications of the operation are pleural effusions, emphysems, and the formation of new adhesions. Effusion and emphysems are common and seemingly without an unfavorable effect. Adhesions should not reform if care is taken to maintain the pneumothorax. When the combined disthermy and context rechingle is used hemograps as as

ALBERT F DEGRAT M.D.

Stegemann, H.: Narcylen Ansesthesis for Operation on Patients With Lumg Conditions, Especially for Thoracoptasty (Be Narcylanbetaubung bei der Operation Luagenkrunker imbesonders bei der Thorakoptastik Scherer, 1912. v 20.

The author calls attention to the lack of unformity in the induction of unsetherals or operations on patients with long conditions, and particularly for thoracophasty. He states that in case of lung disease, especially polmonary tuberculosis, the induction of ansathelas requires great care. Minor procedures such as phrenico-accretis and limited rife recettions should be performed under local ansathesis. Open separation of atherions may also done under aneathesis of this type. Of the major procedures in the surgery of the lung thoracophasty of ornested interest. The inflictations for this open ordure is emphasized, and the results as aboven by a few statistics are decreased.

In the induction of anasthesis special attention must be puid to the heart which has been damaged by tuberculous tonion. As the result of the decrease of the respirators warface, the internal respiration is disturbed. Special precautions are necessary on account of the great danger of generalized spread of the tuberculous process from the aspiration of tuberculous material into parts of the lungs still unlawdred. Although as a rule a quite long step a desirable after a sungrial procedure, in case of a desirable after a sungrial procedure, in case of possible in order that expectoration may take place immediately after the overgreation may take place immediately after the overgreation.

On first consideration, local anesthesis seems to have every advantage—sheene of damage to the respiratory passage; assurance of expectantion in the first few hours after the operation, and absence of postoperative natures and vomiting. However it has the great disadvantage of causing prychic shock. The author discusses the heretolore neglected problem of anod-association, especially in relation to thoracoplasty, and calls attention to the toxic manifestations of local anesthesis which increase the operative shock.

In a comparison of the various annesthetics used for the induction of general annesthesis natvoice was found to be the best general annesthetic as yet available. However, its use received quits a set back in Germany because of the occurrence of several explosious in the absence of an open fame. The author explains the accidents, describes im-

provements in the apparatus by which narcylen is administered, and calls attention to the fact that

ether is also explosive.

Narcylen amenthesis has many decided ad vantages over the types of general ansesthesia pre viously used. According to the replies to a ques-tionnaire sent out by Schroeder its mortality is the lowest. The beginning of the angesthesia is pleasant. An important characteristic is the rapid, almost immediate awakening of the patient after removal of the mask. Lung complications due to the anesthesis are practically unknown. As the patient awakens immediately after removal of the mask, he is able to clear his lungs freely by cough ing In avertin anesthesia there is a long post operative sleep which prevents coughing over in contrast to narcylen anasthesia, the amount of circulating blood is markedly decreased. External respiration has already been decreased by the plastic operation, and by reducing the circulating blood the avertin decreases the internal respiration Both reductions together are dangerous. In narcylen anesthesia the danger is reduced by the increase in the disculating blood. Pernocton and somnifene share the disadvantages of avertin. Ether does not compare favorably with narcylen. as the well known irritation of the bronchial mucosa. the exacerbation of tuberculous lesions, the frequent toxic vomiting and the prolonged period of discom fort associated with its use are absent in aneatheus. induced with narcylen. Moreover, narcylen does not cause disturbances of the cellular structures. The use of chloroform has practically been aban doned. The author has not used chloroform for three and a half years and has not missed it in the induction of more than 10,000 anesthesia. He states that since he has abandoned it the operating room has been a great deal more tranquil. For the weakened, toxin-saturated patient with pulmonary disease, he decidedly opposes the use of chloroform as it is the most poisonous of all anesthetics.

The anesthesia comparing most favorably with that produced by narcylen is mitrous oxide anasthesia. The chief advantage of nitrous oxide is its inability to explode. However this advantage over narcylen is offset by several disadvantages which are not possessed by narcylen. The small anes thetic potency and the limited ancethetic range of nitrous oxide as compared with acetylene, which necessitate pushing the anesthetic to asphyrial limits are sources of great danger. The addition of ether is an illogical compromise since, to prevent cyanosis and asphyxia, the respiratory system is thereby subjected to the well known and feared irritation of the bronchial mucosa and the un favorable influence on latent tuberculosis produced by ether Narcylen induces satisfactory aniesthesia in all cases without the aid of ether

Zanijer's objections to narcylen because of the danger of explosion are answered. The author used narcylen anasthesia for his last on thoracoplastics. All except 3 of the operations, which were done for

empyema cavities, were performed for tuberculosis. Narcylen was found to be the only gaseous anesthetic which alone was sufficient for the induction of complete anesthesia and did not require the additional use of ether or chloroform. By its use the patient received all of the advantages of gas anesthesis, viz., rapid induction of the anesthesis, the avoidance of psychic shock, the induction of deep anasthesis without the use of other anas thetics quick return of consciousness after removal of the mask, almost complete absence of unpleasant sequelse such as nauses and vomiting, the elimina tion of shock by the increase in the blood pressure, and absence of irritation of the respiratory tract cyanous, and asphysia. STECHLARD (Z)

The Treatment of Acute McEschern, J D: Empyema in Infancy and Childhood; With a Report of Seventy Five Cases Treated by Closed Drainage. Brit J. Surg., 1933 xx, 653

The treatment of empyems by the suction and irrigation method described by the author requires more attention to detail than treatment by rib However it decreases the mortality shortens the period of illness, renders the patient more comfortable and leaves a more normal and better functioning chest wall.

The shortening of the time of drainage is of con siderable economic value. If six weeks is the average time of drainage after rib resection, the use of the

closed method cuts the time in half

For practical purposes the empyema cavity can be rendered sterile by the use of Dakin's solution. The use of Dakin's solution does not increase the incidence of bronchial fistula.

The method is excellent for the treatment of encysted empyems. SAMUEL KARDI M.D.

Apparently Common Purulent Alexander J Pleurisies Ultimately Recognized as Tubercu lous (Pieurésies purulentes chroniques banales en apparence tardivement reconnues de nature tuber culeuse) Arch, méd-chir de l'appar respir 193

The author reports eight cases which show the almost any type of purulent pleurisy whatever to infecting bacterium, may be a superinfected tuculous effusion even though its tuberculous to tion (suggested by the prolonged fistulizati.) not be proved by the history or the fur clinical, roentgenological or histological;

When there is reason to suspect tub the cause, repeated microscopic examgranulation tissue should be mad cases show that the histological eculosis may not appear until ! transitory

In three of the author's eigh age and antiseptic irrigation. tain closure of the pleural firt a Schede thoraconlasty wa

The end results were excellent. Of the seven patients who could be traced, four were completely cured, the residual cavity having disappest to. The three others were in good condition, on the ofthem the operative wound was still open and in two it was in the process of bealing. Of the five patients who were treated by thoracogiasty now were healing and three were completely cured.

ing that order were compretely cuted for pleans in fattless were the other than those unually obtained in widest superinfected bacilitary efficiences. The difference in the gravity of the condition is probably due to the fact that fattulking pleans effects of the type under discussion behave from the surgical were point more like infectious empremata than like

GEROPHAGIIS AND MEDIASTINUM

Barrett N R.: Diverticula of the Thoracic Œsoph squa. Let et 1933 ccurly cop.

Diverticula of the creophagus occur most com monly in the upper part of the creophagus and com-

monly in the upper part of the enophagus and comparatively rarely in the thoracic part. Diverticula of the thoracic enophagus are of three main types (i) traction diverticula, (s) pulsion diverticula, and (s) traction-pulsion diverticula. As a rule the diverticula are single.

Diverticula of the thoracic enophagus are of little clinical importance as they seldom give rise to symptoms and are usually discovered only by chance. Symptoms, when present usually consist of difficulty in swalkowing and a feeling of fullness in the chest. Regurgitation of food may also occur Rarer symptoms are increased salivation, dyspoces, cardiac pain, palpitation, and cough.

A certain diagnosts is made by X-ray examination.

after a parium meal. \ ray examination will show the position and extent of the diverticulum.

Few discribing of the thoracte grootherms profile.

Few diverticule of the thoracic cosophagus require treatment, but in cases of large diverticule with symptoms surgical treatment is advisable as the diverticulum may cause obstruction or perforation into the media-stimum.

The author reports the case of a woman fifty-sine years old who had had symptoms of a diverticulum of the thoracic erophagus for two years. \-ray examination showed a large pouch with a wide neck at the level of the seventh rib. Two days before operation artificial ppenmothorax was induced on the right side. At operation, ether was given by the intratraches method and a house passed down the crophagus into the diverticulum. The skin and intercostal muscles were divided along the sixth intermore and excellent exposure gained by means of rib spreaders. By palpating with the bourle the diverticulum was easily identified. The parietal pleurs was incised and the diverticulum isolated by blunt dissection clamped, and removed with the diathermy knife. The grouphagus was closed with two layers of cutent and the enture line covered with a flap of pleura. The thorax was closed without drainage. For nine days the nationt was fed by means of a tube nessed through the nose into the stomach Convalescence was uneventful

Six months after the operation a roentgenogram of the craophagus showed no abnormality whatever

J DAMET WILLIAM, M.D.

SURGERY OF THE ABDOMEN

ABDOMINAL WALL AND PERITONEUM

Meillère, J. An Acute Abdominal Syndrome of Peritoneal Irritation With Moderate But Progressive Emdation of Aseptic Fluid—Haemoperitoneum (Sur un syndrome sign d'irritation péritonèale par épanchement modré et progressil de liquide aseptique—hémopéritoine) Presse mét., Par 1011 zil. 605

Inundation of the peritoneal cavity by aseptic fluid, most frequently blood, is manifested clinically by various avadromes. The variation in the symptoms is explained, no doubt, by differences in the camastive lesions and the amount and rapidity of formation of the fluid. The author has observed cases of gradual inundation of a subscute type. The symptoms of this type include nauses, intestinal obstruction, moderate distention of the abdomen, defensive muscular rigidity flatulence, fatigue, pale but not pertoneal facies and a moderate fever Four cases are reported in detail—three of harmo-pertoneum and one of rapidly forming asottes.

From a study of these cases Meillere concludes that the most typical cases are those in which the traumatic element is reduced to the minimum. As a rule the patient is seen one two or three days after the onset of the symptoms. The first symptom is sudden pain. This subsides, and after a quiet interval of varying duration a state of abdominal malaise develops insidiously. The latter is charac terized by duli pain, names, a sensation of distention, and constipation. Occasionally vomiting occurs. In true scute peritoneal infection at this stage there would be repeated violent attacks of vomiting with high fever a rapid pulse dryness of the tongue peritonesi facies and painful contraction of the abdominal wall. The pain and contraction of acute appendicitis are more localised. The syndrome differs also from that of acute intestinal obstruction. In cataclyamic inundation of the peritoneal cavity there is severe shock or acute anemia. In the syn drome under discussion the pain, shock, and local signs of hamorrhagic pancreatitis and mesenteric thrombosis are absent.

The syndrome discussed is usually due to hamoperitoneum. As a rule the anamia remains slight and diminished duliness is absent because the exudation is moderate and progressive. The symptoms may be due to a subscute postoperative hamoperitoneum or a residual hamoperitoneum, especially following spenectomy for rupture of the spleen or constration in a case of tubal pregnancy. However the most common cause is hamoperitoneum due to the rupture of a viscus. The author believes that the clearest syndrome of hemoperitoneum is produced by the spontaneous rupture of a pathological duced by the spontaneous rupture of a pathological

spleen

In traumatic rupture of the spleen the problem becomes more complex. Traumatic rupture of the spleen may be followed by profuse cataclysmic hemorrhage, abundant hemorrhage, moderate hemorrhage with moderate pentoncel inundation, or slight localized hemorrhage in cases of profuse cataclysmic hemorrhage is there is acute ansmin. The scound type of hemorrhage is the well known classification of the proposed in the splent cataclysmic hemorrhage is the well known classification. The syndrome discussed in this article is caused by the gradual progressive peritonest inundation. Slight localized hemorrhage products a hemstoma in the splenic region. Intraperitoned hemorrhage due to rupture of an extra-uterine pregnancy is manifested by analogous clinical syndromes.

Independently of the anemia, hemoperatoneum causes pentoneal irratation with sensitivity followed by periotal defense and intestinal paralysis. Similar syndromes may be produced by a gradually developing asoftes.

Turner P: Hernioplasty Guy's Hest Ret Lond. 1933 ixxxiii 233.

Operations for the radical cure of inguinal bernla are of the following three types

1 Herniotomy or simple excision of the sac.

2 Herniorrhaphy in which in addition to excision of the sac, an attempt is made to atrengthen the inguinal canal by suturing. The method most commonly employed is Bassinia operation or a modification of it.

3 Hernioplasty in which the weakened inguinal canal is repaired by a plastic operation.

The author describes a method of hernioplasty which he has used in sixty five cases treated in a

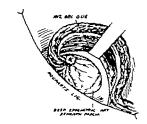


Fig. 7. The opening in the transversalis fasciz defined after removal of the sac. The external oblique is not shown.

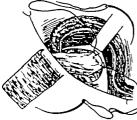


Fig. 5. The flap of fascia has been drawn into the ingential canal by traction on the entures.

period of three years. The essential feature is the use of a pedicide flap of facale ists with its base at Poppar a ligament to diminish the size of the open ing and strengthen the facale boundary of the canal. This flap is turned upward into the ingulari canal beneath Poppart's ligament and sutured to the margins of the gap which were carefully defined at an earlier stare of the operation.

J TROMWELL WITHERSON, M.D.

GASTRO-INTESTINAL TRACT

Raiford, T S.: Lymphobiastomata of the Gastro-Intestinal Tract. Arch Surg. 1933, xxvl, 813.

The problem confronting pathologists with regard to lymphoblastomata of the gastro-interilal tract is twofold (1) to establish a suitable working classification, and (2) to recognize the grade of malls nancy. For these purposes the author made a study of forty-five lymphoblastomata of the gastrointestinal tract which were observed in the Sangical Pathological Laboratory of the Johns Hopkins Hospitzi, Baltimora.

Lymphoblastomais occur most frequently in the stomach small intestine, and colon. The spe curre shows two peaks, one in the first decade and the other a higher peak, in the first decade and the average ago of the patients whose cases are overlowed was forty-one year. The tumors are about twice as frequent in males as in females, and about seven time more frequent in white persons than in negroes.

It is difficult to distinguish lymphoblastomata from carcinomata clinically, but the former are characterized by an incidious onset without acute pain, severe wasting, or secondary anemia. The presence of a moderate degree of fever and the absence of early symptoms of obstruction are

attently suggestive of a tumor of lymphoid origin. The characteristic gross change produced by a lymphoblastoma is an ascurismal dilatation of the bowel, while that produced by a cartinoma is a stenois. The typical cytological form of the lymphoblastoma is a round cell resembling the cells of the lymphoid series. On the basis of the cell from which they arise, lymphoblastomats may be divided into two main groups, the lymphocytomats and the reticulomatis.

The majority of lymphoblastomats are malignant and the remainder must be considered potentially malignant although it is frequently impossible to distinguish the mulignant characteristics. The tumors of the reticulum-cell type are the more malignant. Both types are frequently confused with benign inflammatory lesions such as those of tuberculexis and syndis.

The promotis of gastro-intestinal lymphoblestomata is poor because the diagnosis is made late. The treatment of choice is surgical resection combined with practitation.

J TROMWELL WITH THE POOR, M.D.

Morton, C. B.: Peptic Ulcar: Results of Medical and Surgical Treatment of Patients in Rural Districts and in Small Towns. Arch. Int. Med., 1933, 5, 920

Morton reports on the results obtained in \$86 cases of peptic ulcer in rural patients treated in the period from 1918 to 1918. In 220 of the cases the ulcer was in the duodenum and in 66 in the stomach. The most frequent complication was hemorrhage, which occurred in as per cent of the cases. One hundred and ninety-six (68.6 per cent) of the pa tients were treated medically and 00 (31.4 per cent) were treated surgically Surgical therapy was adwised in 16.5 per cent additional cases, but was refused. Six patients died while under medical treatment, and 8 of the 90 patients treated surgically died while in the hospital. The remaining 272 patients therefore included 190 treated medically and 8s treated surgically. The results after from two to twelve years were determined in 164 cases. They were classified as excellent, good, fair or poor on the bash of the symptoms, dietary limitations, and the use of alkalies.

Of 33 traced patients who had been treated for gratife dier a 5 were treated medically and 8 were treated surpically. Of the 35 treated medically 3 subsequently died of carrinoma of the stomach and 3 died of unspecified causes. Of the 19 survivors, slightly more than half reported satisfactory results. Of the 8 patients treated surpically, 1 subsequently died of an unknown gastic disorder but all of the 7 survivors reported satisfactory results.

Of 131 traced patients who had been treated for duodenal ulcer 55 wers treated medically and 46 surgically. Of the 85 treated medically a subsequently died of ulcer 2 died of some other condition, and 2 died of an unknown condition. Of the 79 survivors, slightly fewer than 50 per cent reported astrakectory results and 6 had had subsequent sur gical treatment for persistent symptoms. Of the 46 treated surgically 2 died subsequently of an unspecified condition and 2 of a condition other than ulcer. Of the 42 survivors, more than 75 per cent reported satisfactory results. Three had developed a gastrojepunal ulcer.

In rural patients the results of the medical man agement of peptic ulcer were considerably less astifactory than the results of surgical treatment. To obtain satisfactory results, those treated medically were obliged to adhere much more strictly to dictary regulation and the use of alkalies than those treated surgically.

Sinclair N: A Case of Diffuse Polyposis of the Stomach. Brit J Surg 1933 xx, 645

Diffuse polyposis of the atomach is relatively zare, only 84 cases having been recorded in the literature to date. It is characterized by the presence of numerous seatle or pedanculated polypi distributed over the gastric nucess. Ballour states that it was encountered only once in 8 coc operations for gastric leakens performed at the Mayo Clinic.

The case reported by Sinciali was that of a woman fifty-seven years of age who, for fourteen years, had suffered from attacks of indigestion character itsel by severe epigantic pain of a burning nature which was made worse by the ingestion of food. At first the attacks had been separated by intervals of freedom from pein extending over many weeks, but recently they had become more frequent and vomiting and distributes had appervened. The vomiting and distributes had occurred daily Every meal had been vomited. The vomittus was of a light color, small in quantity odortests, and free from blood. The atools were loose and dark. For three months there had been a steady less of veight.

The patient was thin and muscular and had a sallow complexion. The blood pressure was 110 systolic and 80 disatolic. Rectal cramination was negative. The crythrocytes numbered 5 500,000 per cubic millimeter. The Wassermann reaction was negative. The barium meal showed a well marked hourglass deformity of the stomach. The locall yete large and had regular contours. The channel between them was very narrow. A diagnosis of simple hourglass stomach was made.

Operation performed under general anesthesia disclosed a well developed hourglass stomach. The constriction lay considerably above the middle of the organ, and although it was narrow was not particularly indurated. Both locall were large. The stomach walls were considerably hypertrophied. The stomach walls were considerably hypertrophied. The stomach walls were considerably hypertrophied, the stomach walls were no enlarged glands in the omentum. Except for a general viscotroptosis, the remainder of the abdominal viscers were normal.

A partial gastrectomy by the Ballour method was performed, approximately two-thirds of the stomach being resected. Section of the stomach

was made through the proximal loculus 11/2 in above the constriction. On division of the stomach the gastric nuccess was found studded throughout with minute sessile polypl. The nuccess of the duodenum and jejunum was normal.

The patient was discharged from the bospital after four weeks feeling better than she had fell for many mouths. She was able to eat without discomfort, the vomiting had cassed, and the bowels were acting normally. A test meal taken during the fourth week of convalences abowed total archorhydra Eight mouths after the operation the patient looked well, had gained weight and had a good appetite.

Microscopic examination of the specimen suggested that a chronic inflatimation had produced polypoid thickening of the gastric mucosa. The duodenal mucosa was normal except that it was densely inflirated with plasma cells and eosinophilic leucocytes. There was no evidence of muliguant change in any of the sections examined.

The exact nature of the morbid process described still remains obscure The tumors are generally referred to an "salenomata." They are covered by a single layer of columnar or cuboidal cells arranged in an orderly manner and landed by the muscularis muccase In many of the recorded cases there was evidence of chronic inflammation. That chronic irritation can produce polypoid growths in the stomach has been proved experimentally. In the Museum of the Royal College of Surgeous of Eng land the specimen from the author's case is classified under the heading 'chronic hypertrophic gastritis.

In Sinclair s opinion the sequence of events in his case was a follows. The patient had a gastric ulcer which healed and thereby produced a hilocular stomach. An unusual degree of chronic gastritis then developed in the distal loculus and led to thickening of the gastric mucosa and the formation of inflammatory polype. The latter in turn caused progressive obstruction of the pyiorus with consequent stasis and more gastrith.

John W NUEUM, M.D.

McIver, M. A.: Acute Intestinal Obstruction Sixth Installment. Am J. Surg. 1933, xx Six

Functional disturbances of intestinal motility may be the result of local or intra-abdominal disease or a refler from some other leaion. Atonic paralysis may be caused by acute peritonitis or the passage of areal stone. These changes may result from injury to the muscle or nerve plexus in the gut wall or inhibitory impulses carried over the extrinsic nerves. The mechanism may be even more complex as the same atimulus may at one time produce atony and at another time, spasm of the bowel.

The mechanism of peristals is complex and is probably a combined neurogenic and myogenic process. Melver believes that the rhythmic contractions and the peristalitic waves may depend upon different mechanisms, the former which is simpler and more primitive, depending upon the inherent

ability of smooth muscles to contract in a rhythmic manner and the more complicated and highly de veloped peristaltic waves depending upon the nervous element for initiation and propagation

Processes outside the abdomen which abolish peristalsis occur as a result of impulses transmitted over the solanchnic nerves. Cutting of the solanchnics prevents such abolishment of peristalsis. Injuries and infections of the peritoneum itself may affect the gut musculature or sanglia within the gut or may be transmitted over the extrinsic nerves. Peritonitis may produce disturbance in bowel function mechanically through the production of adhe flore and functionally by causing paralysis and atony of the intestinal canal as a result of injury to the neuromuscular structure of the gut. Functional in activity of the gut not infrequently occurs following a prolonged mechanical obstruction, possibly because of interference with the blood supply and possibly because of the absorption of toxins. Func tional fleus may occur after operation but under such circumstances is usually mild. Occasionally functional disturbance of the bowel may be so great as to simulate mechanical obstruction. Massachusetts General Hospital 9 such cases were admitted to the surposal ward in the period from 1018 to 1027 Six of the patients were over seventy years of ago and z were infants less than one month old. McIver believes that the functional disturbance of the intestmal tract is probably due to the poor constitutional state of the patient. Other functional disturbances are spastic occlusions. In McIver a opinion, gas pains after operation are at least in part, localized spasms of the gut. The causative factors may be local injury to the muscle

or nerve plexuses or foreign bodies in the bowel. For the prevention of functional obstruction, especially in peritonitis, McIver recommends re-striction of fluids by mouth. Care should be taken to keep the stomach from becoming distended with fluids and gas. In serious cases the fluid intake should be limited to sips of water or if the patient is vomiting no fluid should be given by mouth. If there is gastric dilatation, gastric lavage should be done. In all cases of peritonitis in which extensive trauma has occurred at operation, the liberal use of morphine postoperatively is a valuable prophylaris against postoperative distention and functional obstruction. McIver advocates the administration of 14 gr of morphine every three hours. In the presence of a suspected obstruction cathartics are contra indicated. Of more importance than evacus tion in such cases is the passage of flaters. A low enems may rid the colon of imprisoned gas. Care must be taken not to give enemas too frequently, especially if the finid is not expelled. Application of heat to the abdomen combined with the use of the rectal tube and the administration of morphine is an extremely effective and harmicss way of getting rid of fiatus and reducing distention. In cases of peritonitis the author advocates placing the patient ALTON OCCUPIED, M.D. in Fowler a position.

Figurelli G: Experimental Researches on Detach ment of the Mesculary of Loops of Investme Previously Wrapped with Omentum (Ricerchs sperimental) sol distance meenterine of trust if he testino qualche tempo prima avvoit sell epiploon) Sperimentale 1013, Expell. 8

Figurelli reports a continuation of his experiments on omental enviropment of the Homi soluted from its mesentery in his previous researches the wrapping with nomentum was done at the same time as the resection of the mesentery, whereas in the investigations reported in this article it preceded the reaction by a considerable interval. The time at which it is done is of practical importance for if omental investment preceding resection of the mesentery will assure wishibity of the loop this mesentery as for tumor it is desirable to avoid mesentery as for tumor it is desirable to avoid resection of the intestine.

In six dops a "muff" of omentum was wrapped around the fire surface of an intestinal loop which varied in length in the different animals from 10 to cm. The "muff" was then autured with sik, and after from fitteen to twenty days the measurery was removed died of perforation, and another in which a rocm, portion of meantery was removed died of perforation, and another in which a rocm, portion was resected, to the second of the second of the second of the second of the second operation. The operation and grow after the second operation. The operation and grow and microscopic findings are reported in detail.

In the cases with successful results the loop was somewhat shortmend, fortuous, and alternately stenowed and dilated, depending on adhesions to the omental mult In some places the latter formed a thick coestricting mass sending broad fibruu bands with numerous dilated vessels into the intestinal wall whereas in other areas it was reduced to a thin, scarcely adherent layer and the intestina wall altered Microscopically the Intestinal wall showed more or less infammation and fibrosis, but complete selections never occurred.

In FigureIII earlier towards on mental covidorment following meeting reaction was porter successful for stretches exceeding in om and even below that limit was sometimes of value only to prevent perforation and permit complete selectuals of the Intertial wall. Comparison with the experi ments reported in this article proved that ometiopasty before meetinefic reaction gives better results. However even under the latter conditions, the lexions in the bowl wall and the tendency toward stenois and kinking prevent complete assist ance of success. Mary Fignary Moras, J.D.

Exner P B.: The Roentgen Diagnosis of Right Paraducolenal Hernia: Report of a Case with a Survey of the Literatura. Am J. Recognies 1933, xxix, 555.

Exper discusses the occurrence, anatomy and history of right paraduodenal hernia at some length, tabulates ten cases reported since 1923, reviews the literature on the roentgen findings in the condition, and reports the clinical and roentgen findings in a

case of his own.

He states that the roentgen diagnosis necessitates a careful and detailed examination of the gastrointestinal tract including observation of the peage of a barium meal through the intestines. It depends largely on recognition of the possibility of such a condition.

The most characteristic sign is a clumped appear ance of the intestinal colls as if they were contained in a bag. The coils cannot be displaced from this dramscribed mass by any amount of manipulation or a change in the patient's position. The axis of the ovoid mass of bowel loops is usually somewhat to the right of the midline of the body. When the patient is erect the corpus of the stomach tends to sag down to the left of the sac while the antrum and pylorus are held up in position. Loops of the small bowel tend to be absent from the pelvis. In all cases thus far reported the herniated bowel has shown some loss of motility, so that there is more or less delay in the passage of the barrum through the sac. This stasis helps to render an unusually large part of the bowel visible at one time and thereby accentuates the characteristic appearance. The point of exit from the sac is sometimes manifested by an abrupt change in the caliber of the bowel as it emerges.

Differentiation from left paraduodenal hermia should usually be possible. In left-sided hernia the ovoid mass of bowel tends to lie more to the left side, and in right sided hernia it tends to lie more to the night side, of the midlime of the body. In left sided hermis, the stomach tends to make high on top of the sec, while in right-sided hermia it tends to sag downward to the left of the sec. Differentiation from intestinal non-rotation can be made by bearing in mind the fact that in intestinal non-rotation the exceum is usually reversed with the ileum entering it from the right. Certain rare abdominal anomalies, such as subtotal perforced hermie, might con crivably present confusing roentgen findings, but to date none has been reported.

ADOLPH HARTUNG M.D.

Kittelson J A The Treatment of Duodenal Fistula Including a Report of Two New Cases and a Report of a New Buffer Solution. Surg. Gyme. 5 Obt., 1933 [v] 1056

The author reviews ninety four cases of duodenal fatula which he has collected from the literature since 1865. He records the type of leason, the sur gery performed, the nature of the drain used, the time of appearance of the fastula, the character of the treatment of the fistula the time the treatment was instituted and the ultimate result. To these cases he adds two of his own. As duodenal fastula has a mortality of to per cent and death may super vene within two days after its development, the most essential surgical treatment should be instituted im mediately. A patient with a doodenal fastula he

comes debilitated extremely rapidly from inaution, dehydration, and loss of chlorides

One of the most important contributory factors in the formation of a duodenal fistula is gauze packing Gauze packs increase the orderna usually present in the satured bowel by interfering with the circulation. Sight adhesions may form between the satures and the gauze. Removal of the gause causes traction on the satures which leads to enlargement of one or more sature openings. A small opening becomes rapidly enlarged by the tryptic action of the pancreatic julice and may soon develop into a fatula. In the cases reviewed, surgical treatment had a mortal lity of 50 per cent and conservative treatment a mortality of 27 7 per cent.

Effective therapy was first begun in 1923 by Cameron, who used continuous suction. In 1927 Potter improved the conservative treatment by saddifying the duscharge with N/10 hydrochloric add introduced deep into the firstilla in a continuous stream and packing the wound with gaure scaked in a mixture of olive oil and beef extract. This treatment inactivated the trypsin of the pancreattic secretion and supplied a builter solution on which the bile could act without attacking living tissue. In addition the necessary fluids and dextrose were abundantly supplied.

In the two cases treated successfully by Kittelson, Potter's routine was followed except that the buffer was supplied by whole lactone milk.

SAMUEL | POGELSON M.D.

Crohn B B and Gerendasy J: Traumatic Ulcer of the Duodenum and Stomach J Am M Ass 1932 c, 1653

The possible role of acute abdominal traums in the causation of peptic ulcer is discussed on the basis of a review of the literature and the case of a woman forty five years of age who, without any previous digestive disturbances, developed a typical duotenal ulcer following violent abdominal traums. The diagnosts in the case reported was based on the classical subjective symptoms the findings or centigenographic studies, and the occurrence of hematemests and melena. The possibility that the ulcer may have existed without symptoms prior to the injury is considered but is eliminated because the patient was found normally sensitive or even hypersensitive to pain by the styloid pressure test of Libman.

A gastro-intestinal ulcer may be regarded as a transition only if there is proof of the absolute absence of gastro-intestinal complaints or symptoms prior to the injury the trauma was severe and localized to the abdomial wall prefetably the epigastrum the onset of symptoms followed the injury immediately and the symptoms and signs assumed the characteristics of those of a true gastric or duodenal ulcer

Traumatic ulcer is of medicolegal importance. In compensation cases much depends on the evidence of expert witnesses and authorities. Therefore

of the appendix by fluoroscopy and rocatignous graphy with the patient in different positions. The most important part of the method is the administration of several meals of opaque material usually not more than there on two successive dars. With the use of this method Buisson was able to variable to per cent of normal appendices after a single meal and roo per cent after two meals, and 30 per cent of pathodogical appendices after one meal, 10 per cent after two meals, and 60 per cent after three meals.

Such a reliable method of diagnosis abould be of great value in the differential diagnosis of appendicitis and ailled conditions and in demonstrating the simultaneous presence of a pathological lesion of the appendix with other conditions such as gail badder disease, peptic uleer and irritable bowel The principal objections to it center about (1) the possible existence of a physiological condition which temporarily makes the lumen of the appendix in nervisous, and (3) the cost of the procedure).

Button discusses also the importance of local tenderness over the site of the appendix. He is inclined to asorble less importance to such tenderness than to visualization. He regards fillure of the appendix to fill as the surest single sign of a pathological lesion.

A Louis Rose MD

Borchardt, M. The Differential Diagnosis of Acute Appendicitia (Zur Differentialdiagnose der akuten Appendicitia) Med Klin 932 fl 59 1630, 70 734 779

Although appendicitis is probably the most common of all diseases and its clinical maniferations in definite cases are quite typical, the number of wrong disposes remains superhisingly large. In a study of the clinical material in the Zurich Surpical Clinic during the vers 12 and 1938 Claimont found that no fewer than 20 per cent of the disposes of acute appendicute sent in by general practitioners were incorrect. Although this percentage was considerably decreased in the clinic, operation showed the disposals to be provided to the contract of the catignostic product of the catignostic production which the examine as being normal in his latest monograph Aschoff estimates the in colence of errocogous disposals as 18 per cent.

The chinical picture of scott appendicitis, at though characteristic, is changeable Ambulators cases, mild attacks, and abortive forms of the condition remain all too often entirely unrecognized. Develore medical help is not resorted to at all or the mailfestations are so transient that the physician sees the case when the characteristic signs can no longer be recognized. In some of these cases the lesion heals completely while in others it takes the form of latent appendicitis. This explains the fact that the apparently first clinically recognized attack which leads to operation is almost never the first attack.

Severe forms of appendicitis may also lead to error in diagnosis as the symptoms of peritoneal irritation which dominate the clinical picture are prominent also in many other abdominal diseases and acute pleuropulmonary diseases may produce reflexly very severe symptoms of abdominal irritation exactly like those of acute appendicitis.

However the most important factor which may accuse and explain the frequent errors is the necessity for rapid diagnosis, the success of surgery for appendictibs being dependent chiefly upon early operation. It delay must be avoided, it is best to remove a clinically asupicious appendix even when it shows no evidence of disease at operation and the pathologust indis it normal.

The author names the various conditions which in his experience have been mistaken for appearation in the control observation. Among these is typhilits which may occur as a primary duesse or represent the redduum of a generalized collits. In this condition the symptoms of peritoneal irritation as well as the tenderness to pressure may be circumscribed, but as a rule are not so sharply localized to a small area as in true acute appendicible.

Another condition mentioned is typhlocolitis which, in the opinion of many experienced physicians, may lead to appendicates. Typical of this disease is primary diarrhors, for which the administration of castor oil has been recommended. The author recent this treatment For case in which the diagnoses is doubtful to recommend the contract of the case in which the diagnoses is doubtful to recommend the case of the

Even for cases presenting the clinical symptoms of so-called acute pseudo-appendicitis, among which are included all symptoms of peritocal irritation, the author regards operation as advisable when signs of irritation do not perceptibly subside during the first twelve to eighteen hours

Symptoms of peritoneal irritation may occur particularly in children during or after acute sore throat. Also in this condition there may be a tree or pecudo-appendictia with all the difficulties of differential diagnosis. The time for operation depends upon the persistence or rapid disappearance of the typical symptoms of peritoneal irritation during the first twelve to eighteen hours after the becaming of the attack.

The author is unable to confirm the frequency of true acute appendicitis during the course of grippe and grippe epidemics which has been reported by many surgeons. In his opholon most of these cases are pleuropalmonary forms of grippe with symptoms of pertinonal irritation. The same clinical picture may occasionally be found in poor most, pleurity and the so-called intestinal forms of indisense. In these conditions also the surface of indisense, and these conditions also the surface between the conditions and the conditions about the surface of indisense and pleuropalmonary disease.

Measles and diphtheria often produce the picture of pseudo-appendicitis, and of course true appendicitis may occur in association with them. The theory of Hillgermann and Pohl that diphtheria bacili alone may produce a true acute appendicitis has not been definitely proved.

With regard to involvement of the appendix in typhoid fever there is a wealth of literature. In 1923 Madelung wrote an exhaustive monograph on the subject. The author believes that it is at least doubtful whether true appendicatis can be produced

by typhoid bacilli alone. The symptoms of paratyphold and dysentery are similar to those of appendicitis. The author reports a case of true appendicatis with dysentery in a five year-old boy which was difficult to diagnose but was cared by operation. The appendix in this case was not involved by the dysenteric process, as a pathologico-anatomical study revealed in the tip of the appendix severe necrotizing, phlegmonous

inflammation with no demonstrable relationship to

the dysentery

Because of the frequency with which it is conjused with appendicitis, particular attention should be paid to the clinical picture of cyclic vomiting with acetonemia which occurs chiefly in neuropathic children between three and twelve years of age. This clinical picture is little known. The vomiting the poor general condition with usually a high fever and the retracted scapbold abdomen may be mistaken for manifestations of appendicitis. Medical treatment by the administration of glucose the in jection of 10 units of insulin and the administra tion of camphor and caffeine may save life whereas surgical removal of the always normal appendix inflicts serious trauma.

Particularly difficult to differentiate from appendi citis are the so-called umbilical colics of small chil dren. The author cannot accept the view that these colics are due merely to a neurogenic functional disturbance. He warns against delay in operating as pain localized about the umbilious is often the

only evidence of appendiceal disease.

In persons with intestinal oxyumasis and other parasitic infections of the intestines the picture of appendicopathia halmintia (Aschoff) occasionally appears. Contrary to the view of Rheindorf this is not a true appendicitls but rather an irritative condition for which operation is indicated

In Henoch's abdominal purpura the question of appendicatis does not usually arise. The irritation and small homorrhages by which the viscers particularly the intestinal walls are involved may occur also in the appendix but usually do not justify appended

t reat difficulties in differential diagnosis may be presented by tuberculosis of the peritoneum and the intra abdominal organs. The symptoms are often so alarming that explorators laparotoms is undi-

The author discusses also the clinical manifesta tions of omental torsion inflammation of the omen tum omental tumor torsion of appendices epi ploscae diverticula of the large intestine Meckel's diverticulum and cysts of the urachus and calls attention to the difficulty and even the occasional

impossibility of differentiating these conditions from acute appendicitis without operation. In addition he discusses in detail acute attacks in renal and ureteral lithuaus acute right-sided pvelitis, para nephritic abscesses floating kidney and acute cholecystatis These conditions are very frequently mistaken for acute appendicitis, but if the patient is examined carefully the error is usually avoid able.

In conclusion Borchardt discusses the scute dis cases of the female genitalia, which are among the most frequent causes of error in the diagnosis of appendicitis. These include acute inflammation of the adnexa, ectopic pregnancy twisted ovarian tumors ruptured ovarian cysts twisted tubes and hematosalping. Only skillful palpation and the use of all other methods of examination can prevent errors of diagnosis in these conditions. Of particular interest is the reference to the frequency of acute appendicitis during pregnancy. The mortality of unrecognized appendicatis in pregnancy is still be tween 35 and 60 per cent. SCHEME (Z)

Nario C V : Surgical Treatment of Certain Lesions of the Sigmold Colon (Terapeutica quarungues de algunas lessones del sas algmoide) 4rch ura guavos de med curug y especial 1933 il, 310

Cancer of the sigmoid is a scirrhous tumor which is small and obstructive and metastasizes to the regional lymphatics rather late. Its development passes through three clinical stages the first characterized by dyspepsia, the second by chronic obstruction and the third by acute obstruction. The condition is rarely diagnosed in the incipient stage or first period. The diagnosis may still be regarded as early when the second period of development has been reached Fven in this stage there is sometimes a paipable tumor with localized peritonitis. In the third period the climical picture is that of an acute surgical condition of the abdomen

Surgical therapy varies according to the location of the cancer When the tumor is high up in the freely movable loop of sigmoid a left pararectus curved incision is made which can be subsequently enlarged either above or below as required. The growth is then mobilized by manual separation of adhesions if possible. For external delivery of the involved loop section of the mesentery may be necessary Following extenorization the wound is sutured around the delivered loop. The loop may be extirpated at once or if obstruction is not com plete at a later period. At a still later date the ends may be sutured outside of the peritoneal cavity

When the growth is lower down in the rectosigmoid the procedure followed is essentially that devised by Lockhart Mummery After exploration of the affected loop of sigmoid the arteries are ligated and sectioned. A racquet incision of the pelvic peritoneum is then made and the underlying cellular tissue and lymphatics are dissected free perior hemorrhoidal artery is ligated and the para rectal space dissected free The borrel is then

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ternally. The rectal segment is closed and covered over again by peritoneum of the pelvic floor. The abdominal incision is closed around the delivered loop of sigmoid and the loop is later extirpated so that a permanent colostomy remains.

In megacolon, surgery may be indicated for acute volvulus or simple elemoidal mesacolon with stasis and retention. In acute volvulus the abdomen is explored through a left rectus incision and the volvulus untwisted. If the parts are viable sig moldopexy is performed. When the entire loop is to be removed it is mobilized by section of the mesocolon and the entire loop is exteriorized. Later the bowel segment is excised, and still later the continuity of the lumen of the bowel is restored by extraperitopeal closure. WILLIAM R. MEEKER, M D

LIVER, GALL BLADDER, PANCREAS, AND SPLEEN

Halperin, G.: Regenerative Capacity of the Extra bepatic Biliary Tracts; A Clinical and an Ex perimental Study Surg Gynec. & Ohn 933, lvi, 868.

The many possible lexions of the extrahenatic bile ducts and the numerous surgical procedures at tempted for their correction are reviewed. The use of a rubber tube to bridge a defect in the common bile duct is discussed in detail, particularly with relation to the ingrowth of an epithelial lining for the artificial tube. Many surgeons report having found regeneration of the billary epithelium within the tract formed by omentum, adhesions, and adjacent viscers when the rubber tube was passed but others have consistently found only a connective tissue lining Adhesions invariably cause marked shorten-

ing of the tube. The author operated upon 135 dogs and completed s8 successful experiments in which a rubber tube was used to replace a defect in the common duct. The termination of the tube was of 3 types. In some of the experiments the distal end of the tube was inserted through the ampulla of Vater. In others it was buried in the duodenum as in the Witzel tech nique. In a third group it was secured in the common duct 1 cm or more from the ampulla. In each instance omentum was wrapped about the interven ing rubber tube.

An ascending infection developed in the majority of the dogs and was always present when a stenous occurred in the regenerated duct. Epithelial regen eration occurred readily when only longitudinal slits were made in the common duct. When the new channel was artificial in its entire circumference, epithelium did not grow into it, but when only 50 per cent of the circumference of the new duct was artificial, epithelial regeneration was complete in the majority of the experiments. It is obvious from the results that the blood supply determined the suc cess or failur of the epithelial ingrowth.

STABLEY II MENTEER, M.D.

PACE, E. M. (Experimental Obstruction of the Common Bile Duct (La obstruccion experimental del colectoco) Ren mid quirire de petel femi inc 1933 | 431

From the investigations reported in this article the author draws the following conclusions

r Experimental ligation of the common duct in the dox always produces the icteric syndrome regardless of the conditions under which it is done.

2 The icterus is independent of infection, its intensity varying only with the renal threshold of elimination of bilirubin, the biligenic capacity of the liver and the degree of compensation by the extra hepatic biliary ducts.

3 Clinical interus has no relation to the curve of

bilirubinamia.

4. The compensatory role played by the extra bepatic biliary ducts is related to the dilutations of these ducts immediately following the operation and

the absorption occurring subsequently 5 Icterus caused by asentic Bration of the common duct is due to (a) sample biliary reflux, and (b)

secondary hepatons. 6 The typical hepatic lesion in experimental ∞ clusion of the principal bile duct is paraportal bepa

tosis (fatty degeneration) The degenerative hepatic lesion is due to (a) the action of the bile on the cells, (b) the action of the bile on the neurovascular system which produces

changes in the portal circulation resulting in cellular changes. 8. In the dog, bihary cirrhosis as the final stage

of biliary stasis was not demonstrated, only parenchymatous atrophy being apparent. WILLIAM R. MITTELL M.D.

Pauchet, V., and Hirchberg, A.: Some Observations on the Surgery of the Blie Passages—Drainage and Cholecystostomy Operative Technique Discussion and Deductions (A propos de quel ques obsérvations de chirargie des voies biliaires accessoires. Drainage et cholécystostomy Tech nique opératoire Discussion et deductions) Rede chir Par 933 HJ, 75

The problem of calculous or catarrhal cholecystitis is still unsolved in many of its phases. Therefore the therapy remains a subject for discussion. As the frequency of associated lesions is extremely high, operation should always include a thorough ex ploration of the adjacent viscers.

Among the lesions which may complicate chole cystitis, colitis is frequent. Often there are percolic adhesions. Frequent also are duodenal and pyloric adhesions and gustric ulcer Of much less importance is appendicitis. In cases of cholecystitis based on hemolytic jaundice splenomeraly occurs.

Among the gastric symptoms, hyperacidity is more common than hypo-acidity Anacidity in the resting stomach often coincides with hyperacidity after a test meal Hyperistalsis is rare. Aerophagia is often directly related to gall bladder disease and may be cured by cholecystectomy

When serious lesions are associated with gall bladder disease the treatment is particularly diffi

The annesthesia of choice for gall bladder surgery is high spinal annesthesia. When the proper technique and dosage are used (discussed by the author in detail) no untoward effects are observed or at most there is alight nausen. For simple choiceystostomy local infiltration annesthesia is sufficient.

In the treatment of cholecystitis even of the calculous form drainage has recently been gaining ground. Drainage is especially valuable in cholangeits and pancreatitis. However when the gall yellow he had been considered the contract of t

bladder is definitely altered, cholecystectomy is preferable unless there are complicating lesions.

When cholecystitis is found at operation as a complication of more important lesions of the appendix, colon or stomach the gall bladder should be left undisturbed and the chief lesion treated. The author cites a case in which gastro-enterostomy was performed for pylone obstruction of biliary origin and the calculous gall bladder the original source of the trouble was not removed until three years later. The surgeon is always tempted to do a combined operation but the dangers are very great because of the usual decrease of the functional capacity of the liver.

The results of drainage are generally good, the favorable effects becoming manifest after from ten to fifteen days. However certain difficulties may be encountered. A calculus which has been over looked may arrest the flow of bile. Occasionally the gall bladder becomes fibrotic and cholangeitis develops. When there is an associated pancreatis, the symptoms re-appear with closure of the fistula. Under such dictumstances a new element has been added by the operation, namely infection. If the cholangeitis is severe, the surgeon must re-operate promptly and re-establish drainage with a Kehr or Duval tube.

Cholecystectomy gives almost constantly good results, especially when stones are present. Re-appearance of the symptoms after a period of relief is most grave. Post-prandial diarrhora, anorexis loss of weight and biliary coilc indicate the presence of pancreatitis.

Twelve cases are reported in detail to illustrate some of the difficulties encountered in gall bladder

The techniques of drainage through the ampulla of Vater and of choledochoduodenostomy are shown by drawings.

ALBERT F DEGROAT M.D.

Amoral O : Changes in the Viscera Following Total
Deviation of the Bile from the Intentine (Le
alteration) degli organi consecutive alla derivazione
totale della bile dali intentino) Ann ital di chir.,
1933 zili, r

The author established a complete bihary fistula in dogs kept the animals under observation for a period of five months, and at the end of that time killed them and studied their organs histologically

More or less well marked changes (shown by photomicrographs) were found in the liver, spleen kid neys suprarenals, thyroid and parathyroid glands bones, lymph nodes, pancreas, stomach, duodenum and blood. Amorsi believes that these changes may have been due to a tozzmia or to a change in pig ment or calcium metabolism secondary to lack of bile in the body Eugar T Leddy MD

Huard P and Montagné M Studies on the Technique of Splenectomy for Splenomegaly (Recherches sur la technique de la splenectomie pour splenomegale) J da chir. 1933 rli 608

The spleen being a relatively inaccessible organ especially when it is enlarged or adherent, a large number of methods of approaching it have been devised. The various routes adopted may be classified as the abdominal, the thoracic and the abdominathoracic.

The abdominal approach often requires excessively mutilating incisions. Important vessel and nerves must be cut and to obtain exposure, resection of the costal cartilages may be necessary

The phrenicothoraco-abdominal route (Auvry 1800 Schaefer 1902) gives thorough exposure of the splenic fossa, but involves a pneumothorax that many patients with splenomegaly are unable to tolerate. To avoid this inconvenience the authors have devised an operation in which advantage is taken of the infrapleural space which exists between the lower border of the pleura and the duaphragm at the level of the eleventh rib about 5 cm medial to the free extremity of the rib The problem of obtaining sufficient exposure is solved by two circum stances (1) the pleural cul do-sac is frequently obliterated at this level in splenomegaly and (2) the cul-de-sac is of sufficient depth that, being only a potential cavity it may be opened without creating a pneumothorax. The eleventh rib is therefore resected and the incision carried through its bed and through the diaphragm. The thoracic incision is carried downward and forward through the abdominal wall a variable distance depending upon the size of the spleen. With the use of this incision the surgeon has the choice of bringing the spleen out of the abdominal cavity or of immediately ligating the pedicle. To reduce the use of the organ and save blood, epinephrin may be injected directly or into the splenic artery

The authors describe in detail the variations of the operation which may be employed to meet special conditions. The article has sixteen illustrations.

ALBERT F DEGROAT M.D.

Lucchess G: Sympathectomy of the Splenic Artery (La simpatectomia dell arteria splenica) Arch ital di chir 1933 xxxiii 585

Lucchese reviews the scarty literature on changes following sympathectomy of the splende artery and reports experiments which he carried out on rabbits. In the latter he destroyed the sympathet plexus by rainting the circumference of the artery with 6 per cent phenol Two of the eight rabbits died. The others remained in good condition and were killed from thirty to forty days after the operation. Normal rabbits were used as controls. The results are shown by tables and graphs and are summarized as follows.

The resistance of the red corposcies was diminished as regards its maximal limit but especially as regards its minimal limit. The coagulation time was markedly decreased. The platelets were incressed beyond the usual rise after any operative intervention. The curve reached its neak during the first week and remained bleb for a month \ an den Bereh a reaction for bilirubin in the serum was regative. The red count and the total and differential white counts were unaffected. Before the operation advenagin constantly produced a lymphocytods, whereas after the operation it caused a neutrophilic leucocytosia. Microscopic examina tion showed the veins of the splenic pulp to be greatly congested. The cellular composition of the pulp the lymphoid corouscles and the trabeculæ did not differ essentially from the normal

In conclusion Lucchese says that destruction of the perfected promothetic please modifies are of the phenomena seperally attributed to the spless However the theory of a mere augmentation of function due to hyperemia is not sufficient to expiain the changes as the conception is produced by destruction of the neurovenetative system. As increase in the blood supply may be combined with marked atrophy of the perenchyma such as occurs after sympathectomy on the male senital organi-The spleen lends itself poorly to the investigation of this problem. The disappearance of adrenalin lymphocytosis after sympathectomy is perhaps re lated to inhibition of solenic contraction, as the latter may be the method of action of the ermpathetic system on the soleen. The return of the various phenomena to their original state about a month after sympathectomy may be due either to re-establishment of the functions of the splenic plexus or to vicarious action of the general lymphopoletic system

The article has an extensive bibliography
HARD ELIZABATE MOMER M.D.

GYNECOLOGY

UTERUS

Magnani L.: Clinical Observations on Torsion of Fibromyomata of the Uterus (Osservationi cliniche sulla torsione pei fibromioni uterini) Reliai di parc 1933 xlv 493

Axial torsion of the fibromatous uterus and torsion of pedunculated subserous fibroids have received considerable attention, but most of the discussions are based on a single case or a limited number of cases.

Most authorities agree that such torsions are relatively rare. However the number of cases reported has gradually increased. In 1800 Ferroni collected 20 cases of torsion of the pedicle of subserious pediunculated fibrodis and in 1930 Dallers was able to collect 70 In 1914 Cove estimated the number of recorded cases of torsion of the fibronatious uterus on its axis at about 100 but in 1936 Hitzanidés was able to collect only 86 In 1930 Petridia added 16

According to Piquand and Lemeland torsion occurs in about 1 of every 400 cases of fibromatous uterus but in the author s senes of cases it occurred in about 2 of every 100 cases an incidence which corresponds to that given by most statistics (Col lingworth).

Magnani reports 22 cases in which the clinical diagnosis was verified at operation. In 5 there was torsion of a peducondisted fibroid in 15 torsion of a fibromatous uterus and in 2, a combination of both

The symptoms are dependent upon the character of the onset (acute subancte or insidious) Pain fever visceral disturbances and metrorrhagus are practically constant.

Torsion of pedunculated fibroids is most common at about the age of forty years because of the in creased frequency of fibroids at that age. The size of the tumor has some influence and the location of the tumor is of great importance. In the author's cases the tumors were situated most frequently in the tubo-uterine angles. Of 22 cases of torsion of pedanculated fibroids reported by Piquand, the neoplasm arose from the middle of the fundus in 12 from the anterior wall of the uterus in 4 from the posterior wall in 4 and from the angles in only 2. The structure of the tumor particularly eccentric cavities filled with fluid or pus and eccentric cal effication may be a factor in torsion. Other factors are the length and thickness of the pedicle Changes in the position of the gravid uterus also exert an in fluence Of the author s 7 cases of torsion of pedun culated fibroids alone or associated with torsion of the uterus 6 were those of multiparse whereas of his 15 cases of torsion of the fibromatous uterus 13 were those of nulliparae

Torsion of the fibromatous uterus is favored by injuries to the abdomen briak movements of the uterus sudden violent peristalsis and subserous pedunculated fibroids

The mechanism of the torsion is rather obscure While many theories have been advanced to explain

it, none of them applies to all cases.

Torsion of the uterus seldom exceeds so degrees but 2 or more complete turns have been reported. The most pronounced torsion in the author's cases (180 degrees) occurred in the pedicle of a subserous pedunculated fibroid.

The associated pathological changes were ad hesions which were present in practically all cases and predominantly omental and ascites which was present in only 2 cases

The diagnosis of torsion is difficult especially when the condition has an insidious onset.

Cases of supposed torsion of a fibromatous uterus or of pedunculated fibroids in which such torsion was not found at operation cause the author to conclude that detorsion occurs as readily as torsion

The author believes that the operative mortality at the present time is certainly below the 8 per cent reported by Piquand and Lemeland in 1909. According to Piquand and Lemeland, the mortality in acute cases not operated upon is 6, per cent.

Operation should be done as soon as possible after the crisis. The operative procedures vary from conservative measures to hysterectom.

The most frequent complication is thrombo

phlebitis

All of the author's cases were treated surgically with good results.

Gronoz C Friola M D

Pett Dutaillia, P: A Comparison of Different Methods of Using Radium-Sorgery in Epithelloms of the Cervix Uteri With Other Methods of Treating Such Cancer (Confrontation de di verses méthodes de radium-chirugie de l'épithé llome du col avec d'autres modes de traitement de ce cancer) Gyatchogie 1033 xxiii 5

Statistics from various clinics show that the pri mary mortality of present-day radium therapy of cervical cancer is 3 3 per cent. Death is due almost invariably to infection, and the way in which the radium is applied is undoubtedly an important factor in the development and severity of inflammatory processes (cellulitis salpingitis phiebitis peritonitis and septicemia)

The author recommends the following methods of treatment

1 Uterovaginal radium therapy after curettage and cauterization. This is recommended for patients in Groups 2 3 and 4. Curettage should be followed by cauterization with heat. This seems to safeguard the patient against hemorrhage and infection. The curetic removes the bulk of the involved tissue and the cautery completes the destruction seaks of vessels, and prevents dissemination of cancer cells through channels opened by the curette. The through channels opened by the curette. The through channels opened by the curette. The ling burns of vital structures which may lead to fairnine of vital structures which may lead to fairnine of vital structures which may lead to fairnine of controlling or badded and bringing of the with the controlling of the controlling of the controlling of the controlling of the conlocal infection. In three or four months scar forms toon and healths will be complete to

2 Uterovaginal radium therapy following curetage and cauterization and suppliemented by radium therapy over the buttocks. This is applicable to cases of Group 4 with faitule. The technique in cludes carettage, cauterization, and the placing of radium as to the first method. In addition, blasteral perineal inclusions are made and radium is introduced near the internal obtuntor muscle, between the muscle and the aponeurous in the lichio-anal forces. The object of this procedure is to suppress metastases by treating important lymphatic chains more directly than a done in most methods.

3 Uterovaginal radium therapy after amputa ton of the cervir. This treatment is indicated in cases of Group 1 Many surgeons irradiate these early cases fort and perform an abdominal complete hysterectomy six weeks later. After hysterectomy radium irradiation is hopeless as the radium cannot be inserted effectively and the performent is close to the field where it must be applied. The author amputates the cervix and then applies radium either immediately or after healing of the surgleal wound. This procedure has resulted in a cure in every case of Group 1 in which it has been used.

In cases of cancer of the cervix treated by radical abdominal operation the mortality ranges from 5 5 to 10 per cent. In 51 cases which the author treated by his various methods of surgical preparation for radium therapy there was only 1 death a mortality

of 1.0 per cent
Of his cases in Groups 2 3 and 4, the author obtained a cure in 22 per cent, whereas Regauda
statistics for a similar group showed the incidence of
cure to be 36 per cent. On the other hand of his
cases in Group 4, the author obtained a cure in no
per cent whereas Regaud obtained a cure in only 2
per cent of similar cases.

Of his cases of Group 1 the author obtained a cure in 100 per creat and Regaud a cure in 100 per 15 per cent. Monod reported a cure in 36 per cent or intry-seven cases in Groups 1 and 2 Hartman obtained a cure in 35 per cent of cases in which radium therapy was followed by hysterectomy and Faure obtained a cure in 66 per cent of cases similarly treated.

The author draws the following conclusions
The Werthelm operation is far from ideal.

The Wetthern operation is far from mind.
 The problem of treating cancer of the cervix today is not the choice between radium irradiation.

and operation, but the choice between radium irra diation alone and combined with surgery 3 Radium therapy has a lower mortality than

radical surgery and surgery combined with radium irradiation seems to have still further decreased the mortality Grouce C. Fraces, M.D.

GEORGE H GARDWER MLD

ADNEXAL AND PERIUTERINE CONDITIONS Taylor J M Wolfermann S J., and Krock, F:

Arrhanoblastoms of the Overy Swg Greek & Obst 933, bu, 1040.

The case of archenoblastoms of the owary reported in this article is the first reported from the United States and the twenty-seventh to be recorded in the literature. It shows the powerful influence carried by sex bormones on the development of the secondary sex characteristics. Archenoblastomats of the owary are most common between the sgss

of twenty-one and thirty-five years. The signs of such tumors include defeminization, masculinization pain and blood changes. The earliest signs are usually amenorthme and sterility The breasts atrophy the genitalia, with the exception of the clitoris, become hypoplastic, the vaginal canal becomes short and contracted, and the body of the uterus and the cervix become atrophic. There is an excessive growth of hair on the body. A beard appears and the pubic hair is of the male type The facial expression is masculine because of coarseness of the features and bushiness of the evebrows. The voice is low pitched. In long-standing cases the ciltors is hypertrophied. Pain is usually caused by pressure of the rapidly growing tumor Anemia and fever are usually present. The Aschheim-Zondek test is negative. After removal of the tumor the normal female characteristics are restored.

The treatment indicated is removal of the tumor Only one ovary is affected

Meyer distinguishes the following three histological types of arrhenohlastomata

r Adenoma testiculare. This structure is very similar to the tumor of the same name occurring in the testis and is predominately tubular. It causes

masculinization only exceptionally
2. Atypical tumors. These cause marked masculinization. The structure of the tumors is sarromalike and the tubules are often radimentary.

3 Intermediate group These are a mixture of Groups 1 and 2. They arise from undifferentiated germ cells in the blum of the overy They are malignant but usually do not metastasize before street posses.

TFIOT BELL, M.D.

EXTERNAL GENITALIA

Fagioli, Mr. Solid Tumors of the Glands of Barthelin (Tumori solid: della giandola di Bartoline) Ris tal di ginec. 915, xv. 80

Benign neoplasms of the glands of Bartholin are the rarest of all benign neoplasms of the vulvs On the basis of their structure they have been classified as fibromata lipomata, fibromyxomata and fibromyomata.

Fibromata may arise from many diverse points They develop most frequently from the labia majora and less frequently from the labla minora, ditons hymen urethral onfice postenor vulvar commissure, frenulum, round ligament, and glands

of Bartholin.

In the chapter on diseases of the vulva in Stoeckel's recent treatise, Kehrer cited only four cases of solid tumors of the glands of Bartholin. De Gironcoli collected seventy three cases of benign tumors of the vulva from the literature and reported two others. His collection included three tumors ansing from the labla minors and seventy two arising from the labia majora but none arising from the glands of Bartholm

In 1932 Garofalo reported a tumor originating from the connective tissue of the labia majora and

a tumor arising from an implant,

The author reviews the various theories regarding the pathogenesis According to you Recklinghausen, these tumors arise from the connective tissue of cutaneous nerves. Huertle and Nauwerk distinguish between those arising from the blood vessel sheaths and those having their origin in the awent glands. De Gironcoll is uncertain of their origin. By some the neoplasms are believed to have their beginning in the smooth muscle, round ligaments or inter stitial tissue of the glands of Bartholin. Luque questions whether solid tumors occur in the glands of Bartholm

In the study of the works of Veit, Klob Scanzoni Maly Crossen Graves, Meyers and others the author found that up to the present time no one has attributed the geneus of fibromata of the labla majora to the giands of Bartholin.

The case reported by Fagnoli was that of a woman thirty-one years of age who had had two children. Menstruation began at the age of fourteen years and had always been regular. The menatrual flow was moderate. There was no history of leucorrhoea. General physical examination and urinalysis were entirely negative. The vulva were found displaced toward the left by a tumor mass the size of a nut which arose from the right side of the introitus. No macule of Saenger were noted, and there was no leucorrhoea. On palpation of the labia a hard smooth painless, mobile tumor mass the size of a large nut was found at the right posterolateral margin of the vaginal orifice. The orifices of both Bartholin glands were distinctly visible. Smears showed a few gram negative bacilli and many chains of streptococci A diagnosis of cyst of Barthoin a gland was made. After its exclaion, the tumor was found to be solid.

On histological examination of the specimen no trace of glandular tissue could be discovered. Serul sections showed the entire tumor to be composed of a compact tissue of uniform fibrillar structure with fusiform cells presenting elongated nuclei. All

of the tissue was discretely vascularised by a series of blood vessels irregularly distributed in the pa renchyma. There were no areas of regression or necrosis. The histological diagnosis was fibroma

As there was no evidence of an inflammatory reaction, the author concludes it unnecessary to distinguish this benign tumor from the products of a chronic inflammatory process. While Kehrer's demonstration of smooth muscle fibers in these fibromata suggests a round ligament origin, Fagnoli calls attention to the fact that the glands of Bartholin also contain smooth muscle as well as striated GEORGE C. FINDLA M.D. muscle.

MISCRLLANBOUS

Witherspoon J T The Interrelationship Between Ovarian Follicle Cysts, Hyperplasia of the Endometrium and Fibromyomata; A Possible Etiology of Uterine Fibroids Surg Gysec & Obst 1933 lvi, 1016

The author reviews the formerly accepted theories as to the origin of uterine fibroids and discusses the histogenesis of the tumors and the influence of heredity sterility and race in their development He cites in particular Sampson's theory that local hyperplasis of uterine muscle cells is caused by the stimulus of menstrual blood which has acquired access to the myometrium by retrograde flow through the venous sinuses of the endometrium. The observation made by Polak and Lynch that fibroids are frequently associated with glandular disturbances is discussed. Oversen activity has generally been considered a factor in the development of abroids because these tumors occur most frequently in the years of greatest ovarian function. The cause and-effect relationship of follicle cysts of the overy and hyperplasis of the endometrium is discussed on the basis of observations made by Schroeder and That hyperplasia of the endometrium is caused by excess cestrin stimulation from the mul tiple follicle cysts of the overy is indicated by the following facts

It is observed only during the years of greatest

functional activity 2 It occurs at the two extremes of menstrual

life when the ovarian cycle tends not to follow its normal rhythm because it is just beginning or ending 3 There is no evidence of an inflammatory origin

as it occurs in very young girls.

4. The bleeding resulting from it is checked by removal of the ovaries and by destruction of ovarian function by \ ray irradiation.

5 Curettage gives only temporary relief a fact suggesting that it does not reach the cause

6 Follicle cysts are found constantly and the blood contains an excess of follicle hormone at such periods.

7 Œstrin has been proved experimentally to be a growth hormone to endometrial glands and stroma and hyperplasus of the endometrium presents similar histological characteristics.

8 Hyperplasia of the endometrium is found after the menopeuse in association with granulosa-cell tumors which give rise to excess cestrin or hyper cestrinism in the blood.

 The absence of corpora lutes precludes the formation of progestin.
 The lack of progestin, the corpus luteum

hormone is confirmed by the absence of endometrial secretory changes normally produced by this hormone

Since the utarus as a whole is involved in the productive process, it seems logical to conclude that the action of certrin is not limited solely to the endometrium but affects also myometrium mespecially if there is pathological attinuation of this tissue at the same time that the endometrium is being abnormally attinuated to undergo hyperpasts. Since the rate of growth of Dromnvanta is not encered might rapid except in pregnance and malignancy and possibly in youth it seems logical to assume that If these growth are the results of unspanned.

cratria stimulation of the myometrium their appear ance would be abover than the hyperplaytic endometrial changes. Hence it might be concluded that the unopposed action of cratrin on the uterus results in (1) immediate endometrial changes character ized by hyperplasia and (3) more latent myometrial disease of the nature of bibomyomatous grout his.

if the hormonal atimulation is probouged sufficiently. On the bast of this hypothesis the author made attudy of 16 cases of hyperplasts of the endonetrium in which the diagnosis was confirmed at operation and a second operation was performed for thermoments after an approximate interval of four version and four months. In addition to the findings of this study he reviews 124 cases of fibromycomats diagnosed by microscopic examination, reporting the associated ovarian and endometrial findings as presenting evidence in support of a cause-and-effect relationship between ovariant folloic cysts and by per plasts of the endometrium and magneting a possible factor in the development of uterior fibrobals.

OBSTETRICS

PREGNANCY AND ITS COMPLICATIONS

Lawrance J S: Concerning Death of the Fetus in Pregnancy Am J Obit & Gynec 1933 xxv 633

Of seven cases of stillburth in which the fetus manifested distress during the pregnancy placenti tis was present in five and was the only abnormality in two Of five cases of stillbirth in which there was no evidence of fetal distress during the pregnancy placentitis was found in only one. Of four cases in which there were signs of fetal distress during the pregnancy and the child died soon after birth placentitis was found in two and was the only pathological condition in one Of fourteen cases in which the child died soon after birth but had not manifested distress during the pregnancy placen titls was found in none. Of nine cases in which the child manifested distress during the pregnancy but survived after birth placentitis was found in four and was the only abnormal finding in three On the other hand, of six cases in which the child did not show signs of distress during the pregnancy and survived after birth, placentitis was found in all and was the only abnormality in four The author believes, however that in these cases the placentitis was less severe

Lawrance calls attention to a type of intra utenne fetal death which is due to fetal starvation caused by difficulty in filtration of the required nutriment through a placenta with increased connective tusue and coarsening of the maternal and fetal elements He states that carbohy drates can filter through such a placenta if they are given in sufficient amounts and in proper form. The administration of sufficient quantities of carbohydrates in the most diffusible form will temporarily relieve the fetal distress and an excessive but not exclusively carbohydrate diet will prevent recurrence of the distress. Observation of the rate and rhythm of the fetal heart and atten tion to the reports of instructed mothers regarding the periodicity and quality of the fetal movements will often disclose the advent of fetal distress in time for measures to prevent intra-uterme death

EDWARD L. CORNELL, M D

Ngnes, H. and Lemant, J.: Changes in the Reticulo-Endothelial System During Normal and Abnormal Fregnancy (Modifications du système réliculo-endothéliale pendant la grossesse normale et pathologique) Gydic et dell., 1933 xxvii, 335

The authors summarize the findings of various in estigators concerning the functional activities of the reticulo-endothelial elements during normal and abnormal pregnancy. These phagocy tic cells present in the connective tissues certain organs, and the blood stream are easily recognized because of their

property of fixing intravenously injected and dyes notably carmine. This property of vital stanning permits a morphological study of the reticulo-endothelial system and the rate of the dve fixation gives important information concerning the functional

activities of its elements Histological studies show an increase during preg nancy in the number of reticulo-endothelial elements in the uterus endometrium, placental site maternal surface of the placents and other organs of the body Functional studies are less uniformly conclusive. These are based on the results following the injection of carmine and India ink and on studies of the fixation of colloids normally present in the body (hæmorlobin cholesterin) The results obtained are variable but for the most part seem to indicate a diminution of the dve fixing power during preg nancy At the same time there is evidence to justify the supposition that because of the general increase of metabolic activity during pregnancy the activity of the reticulo-endothelial system is also increased As other organic functions are accentuated during pregnancy to a point approaching the physiological maximum the authors conclude that this is true also of the reticulo-endothelial system. During the puerperium there is a very rapid return to the nor mai rate of function. Blockage or delayed fixation of acid dyes is most marked in eclampsia hyper emesis retropiacental hemorrhage and generalized ordems, but there is no evidence to support the view that it is the cause or the result of such disorders

The reticulo-endothelial system participates actively in the defense of the body against infection. When the laws of its reactions are better understood they will give important information regarding prognosis and treatment. HARLIO C. MACK M.D.

Marchose, E.: Research on the Determination of the Pelvic Inclination and the Conjugats Vera (Ricerche sulla determinazione dell'inclinazione pelvica e della coniugata vera) Clis estet 1933 XXXV 193

The author describes the technique he uses for determination of the pelve inclination and the conjugata vera and shows the instruments by illustrations. With the inclination representations that the pelvic inclination averages about 55 per cent. He gives the measurements of fifty female pelves and calls attention to the important relation ship between the inclination of the symphysis public and the conjugata vera.

A. Lours Ross MD

Bothe F A.: Hyperthyroidism Associated with Pregnancy 4m I Out & Gynec 1933 xx 618 Bothe reviews ten cases of hyperthyroidism complicating pregnancy Eight were cases of severely toale goiler and two were cases of mild tosicity. The two patients with mild tosicity were treated medically with successful termination of the preg nancy. Of the eight with severe toxicity two refused operation one miscarried in the hospital before surgery could be performed, and five were subjected to subtotal thyroldectomy. Three of the latter were operated upon before the fift month of preparancy and two in the sixth month. In all of the five cases in which persisten was done the

In the cases of five patients with a normal delivery at term the symptoms of byperthynditian persisted after delivery. Due time having been allowed for readjustment of glandular function, operation was advised during the second or third months following delivers in four cases. Two of the patients refused operation and have not been traced. Two of those who were operated upon recovered and have had no recurrence. One of those operated upon the contractions of the contraction of the

In mildly tork cases medical treatment is instituted fint. The patient is placed at rest in bed, treated with sedatives, given to drops of Lugda's solution three times a day and jeolated from external stimuli which might disturb her emotional stability. If improvement or complete relief of symptoms is maintained, medical care is continued during the presenancy

In cases of severe toxicity the treatment should be directed to the thyrold. After pre-operative preparation a subtotal thyroidectomy should be done. This treatment is indicated particularly if the patient is seen in the first five months of preg nancy EDWARD L COMMIL, M.D.

Hofburer J : Epithalial Proliferation in the Carvix Uteri During Pregnancy and Its Clinical Implications. Am J Oart & Gyme 1933 xxv 779.

Routine examination of twenty nine gravid uter revealed a remarkable difference in the degree of the epithelial changes. Various evidences of epithelial activity such as reduplication of cell layers vacuole formation, and vesicular polymorphism of the nuclei, were found in certain areas of every specimen. In eight of the twenty-sine specimens, however there was very characteristic activity. In this group the principal epithelial variations observed were epithelial profileration with stratification, the occurrence of mitotic figures in the profileration gribble down growth into the connective tissue indirect meta plassa and pobles-cell formation.

The morphological appearance of the hyperplastic changes of the cervical epithelium found in a small but notable proportion of pregnant steri with well-defined lugrowths and hyperchronatized do not permit a dogmatic statement to be made with regard to its significance as an anter-deal cocervical cancer. No conclusive sequence of changes from this remarkable optitedial hyperplasis into true cancer has yet been observed. However on

the basis of similar phenomena in the sall bladder the breast and the alimentary tract, the author over wests that the production during premancy of solid tongues of proliferating entitledial cells in discrete areas of the cervical mucosa may constitute an important link in the chain of causetive factors in the later development of utering malignancy. The question of the interrelationship of such enithelial variations and sequential chronic inflammatory conditions he leaves unanswered. If his theory is correct proper care of the endocernly in the post natal clinic is of importance in the prophylavis of cancer of the uterus. The endocervix should be carefully inspected and any vascular or granular ares in its substance should be given immediate ettention Enward L. CORRELL M.D.

Rochet, E.: The Treatment of Carcinoma of the Cervix in Pregnancy (A propos de la therapentique du cancer du col uténn au coun de la getation)

Re franc du cy ét d'était nous veril, sou

The incidence of cancer of the uterine cervit is prepanent is variously reported as reaso in from 1 too to 5 coo cases of pregnancy. Without doubt, pregnancy has a very unit, worseld influence on the growth of the tumor. Of 15 women whose case are reviewed by the author only 1 survived there years. The rest showed evidence of recurrence within from twelvin to eighteen months.

Unlike non-gravid women pregnant women with cervical cancer (who are usually multipare) gen erally present themselves for treatment early because of the repeated bleeding. Even then the diagnosis is often delayed because of failure of the physician to make a proper pelvic examination.

If the cancer is operable the presence of pregnancy does not constitute a contra-indication to operation. In the decision as to treatment, the age of the pregnancy the degree of operability and the wishes of the woman must be taken into consideration. The natural swelling of the pelvic structures associated with pregnancy may make the tumor seem more widespread than it is.

Two accelerations are the many and possible—suppers and branched of treatment are possible—suppers and branched of treatment consists of total hysterectomy regions in the method of werbein During the fight months of preparaty operation is performed with no regard for the fetus. Later Irradiation may be carried out. At the end of eight months, operation may be delayed until term. Delivery should be effected by creatment section, whether the child is viable or not, as lator has a deleterious effect. After delivery, intribute treatment should usually be delayed until the discharge of lochs has a ceased.

During the sixth and seventh months of prenancy radium may be used in order to avoid sardier of the buby which would be necessary with surgery. In this period the extent of the cancer may be taken into account. If the cancer is operable but progressing rapidly total hysterectomy with seriface of the fetus is necessary. If the cancer is operable but progressing slowly the author applies radium to its surface, allows the pregnancy to continue until the child is viable, delivers the child by cresarean section, and then performs a total hysterectomy When the tumor is inoperable whatever the stage of the pregnancy the author applies radium to its surface, allows the pregnancy to go to term deliveries the baby by caesarean section, and then places radium in the canal Radium must never be placed in the utenne canal when the baby is viable If it is possible to carry out a complete extirpation after delivery a wide total hysterectomy is indicated otherwise a subtotal hysterectomy should be per formed.

Carcinomata discovered after delivery should be treated as though there had been no pregnancy IORN W EFFOR M D

LABOR AND ITS COMPLICATIONS

Bourne, A., and Bell A C.: Uterine Inertia. J Obst & Grace Brit Emb., 1933 xl, 423

The authors believe that most of the disasters of delivery can be ascribed to failure of the dilating and expulsive forces of the uterus. Feeble contractions are the chief cause of the delay A feebly acting uterus is unable to flex and rotate the child from an occuput posterior position or to force down the soft breech

In a review of the records of 4 500 consecutive deliveries the authors found only 40 cases of true primary inertia in which the delay of labor was due solely to ineffectual uterine contractions with or without rigidity of the cervix. Long labor was based on a first stage of forty-eight hours or more.

In the majority parity not maturity was the determining factor the condition being 5 times more common in primipare than in multipare. In pri mipare the membranes usually rupture pre maturely

There are a definite uterine actions in labor One is the active contraction of the fundus which after labor begins gradually increases in strength and the other a coincidental relaxation of the cervix. When both actions are perfectly co-ordinated there is a socalled normal labor of average duration. If the cervical relaxation is unduly marked, the cervix is dulated perhaps to a diameter of 11% in during the last month of pregnancy without uterme contrac tions felt by the patient. Such conditions occur only in multiparze and are often followed by quick even precipitate labor

The factors influencing the strength of the uterine contractions include nervous inhibition by the sympathetic, proper working of the local cervical reflex and possibly endocrine secretions. It is probable that healthy uterine muscle has a uniform capacity for contraction. In the stimulation of the cervical reflex factor the engaging and pressing fetal head is of importance. When the head is floating above the brim the pregnancy is often prolonged. In some cases of occiput-posterior position labor is slow not

because of malproportion or mechanical factors but because of feebleness of the contractions

If the uterus acts strongly the head is flexed and rotated. Labor is often slow because the pressure of the head on the cervix does not arouse the cervical reflex by which contractions are stimulated

Pituitrin stimulates and adrenalin inhibits uterino contraction.

In some cases of uterine mertia the cervix has a preponderance of fibrous tissue whereas in others it The term entirely lacks muscle tusue applied to the cervix means a condition of fibrotic inelasticity. In the vast majority of labors delayed dilatation with good contractions is due to spasm of the cervix and not to fibrous

In the majority of cases of mertia the treatment demands patience and the use of sedative drugs. The chief danger lies in too early interference which causes lacerations shock, harmorrhage and sepsis

Fear stimulates the liberation of adrenalin with its inhibiting effects on uterine action. The fright ened woman usually has a difficult labor. Therefore encouragement and the development of confidence are important antenatal factors. If labor begins slowly with anxiety and an exaggerated response to contractions morphine and scopolamine should be given as soon as possible.

When the patient has progressed alone with in ertia as long as permissible the manual dilatability of the cervix and the exact position of the head should be determined under anæsthema before ac tive interference is undertaken

The majority of cervices are easily dilated The cervix should be pushed up over the head and slow delivery completed with the forceps. If the cervix is not dilutable but all other condi-

tions are good, lower segment cessarean section may be performed. If the child is dead its head should be perforated

a craniociast affixed and delivery effected by con tinuous weight traction CHARLES F DuBous M D

Snoeck, J Rupture of the Uterus After Corpores! Grenzenn Section (Rupture utérines sprès césari ennes corporéales) Benzelles méd 1033 xill 720

From a study of twelve cases of rupture of the uterus after corporeal casarean section the author draws the following conclusions

- The signs of uterine rupture after a classical cresarean section are generally those of peritoneal irritation without grave symptoms of shock or hemorrhage
- 2 The principal factor responsible for the runture is poor quality of the uterine scar. Other factors mentioned in the literature such as overdistention of the uterus violent uterine contractions during prolonged labor and the insertion of the placenta over the uterine scar are of secondary importance They are generally not sufficient to explain the accident by themselves
- 3 The frequency of uterine runture after the classical exsarcan section is an important argument

for the use of the low createran section in preference to the high createran section even in clean cases.

Delmas, P: The Use of Spinal Ansasthesia in Operative Obstetrics (Letilisation dela rachianesthèse en obstétrique opératoire). Grack et also (O) Artifi

Delmas claims that he was the first to determine the action of spinal anarthesis on the anterior serve roots. This action produces a so-called akinesis or loss of motor function. Delmas also established the fact that the degree and height of spinal anarsthesis depend upon the amount of ansathetic fluid

employed.

He uses scurocaine, injecting it through a puncture in the lumbosacral region. He injects 5 ctgm for a limited spinal anesthesia and 10 ctgm for an extensive wind anesthesia. He describes his tech

nime in detail

The limited amenthesia is used by Delmas prefer ably during the expulsive stage of labor. It is satis factory for the use of forceps breech extractions, and perincorrhaphies. Under the extensive spinal amenthesis all I pes of createan sections and versioner can be done.

Spinal anesthesia is sometimes supplemented by I The inhalation of amyl nitrite during the

anesthesia to prevent bulbar symptoms.

2 The prophylactic use of ergotin (Cuérin Valmale) two hours after the stand anesthesia to

prevent vascular atoms
3. The intravenous injection of 40 c cm of distilled water (Leriche) in the days following the

angesthesis to prevent late headaches

Delmas states that in 5 000 cases of spinal angesthesia be was not obliged to use any of these aids

Isau Venussers MD

PURRPERIUM AND ITS COMPLICATIONS

Melandri 3 The Blood Picture During Labor and the First Days of the Puerperlum (Il coudro ematologico durante il parto e per prima giorm del

puerperi) Ri siel di giarer 033, 75 57 The author discusses the current theories recard ing the behavior of the cellular elements of the blood during pregnancy. While there is some diversity of oronion most authorities agree that pregnancy is accompanied by a decrease of the erythrocytes. either relative or absolute and with the latte a decrease of the harmorloban content of the blood With resert to the leucocytes there is more uni versal accord It is agreed that a leucocytosis occurs during pregnancy reaches its maximum during labor and rapidly diminishes during the poerperium The leucycytods is due chiefly to an increase in the polymorphonuclear neutrophiles. Basophiles and cosmophiles are scarce or absent. The lymphocytes show a diminution during pregnancy and labor followed by a return to normal in the first few days of the puerperlum.

The results of the author's investigation in the cases of twenty women are reported. The blood counts were made during labor three times daily at regular intervals on the first day after delivery twice daily on the second day, and once on the third fourth and fifth days. The blood was obtained from the finere.

During labor the esynthrocyte count ranged from jo 3/4 millions in two cases, from 3/5 to 4/4 millions in two cases, from 3/5 to 4/4 millions in four cases, and from 4 to 4/5 millions in niner cases. In one case it was above, millions. The average count was 4 124,600. In fifteen cases the count was a below the normal. During the first day of the purportum twelve cases aboved a decrease in the purportum twelve cases aboved a decrease in the purportum twelve cases aboved a decrease in the purportum twelve cases aboved a decrease in the purportum twelve cases aboved a decrease in the purportum twelve cases aboved a decrease in the purportum twelve cases aboved a decrease in the purportum twelve for the purportum twelve for the purportum twelve for the first

During labor the harmoglobin varied from 40 to 3 per cent and averaged to 60 per cent. In each case it remained quite constant. The leucocytes ranged from \$ 50 to 33,000 and averaged \$4,537. The differential count showed the percentage of polymorphomodean neutrophiles to range from \$6 to 0 and the average percentage of lymphocytes to be a considered to the constant of the same and the same are the constantiable during labor.

During the puerperium the hemoglobin was found to parallel the ervitorovice, aboving a gradual in crease toward the normal on the third day. The hencovices although varying considerable, tended to decrease as eard as the first day. The differential count also began to approach normal on the first

In examinations of the retroplacental blood the results were found to be both typical and constant in each case the changes in the erythrocties and hemoglobin were similar to those in the erythroctus and hemoglobin of the peripheral blood However while the peripheral blood showed a leucocytosia, the number of leucocytes in the retroplacental blood ranged from 1,000 to 3,500 and averaged 3 co. The differential count showed the same relative proportions as the peripheral blood. General 4, Funda, M.D.

Giornelli, L. Anatomicoclinical Contributions to the Study of Infarcts of the Hypophysis in Puerperal Women (Contribute natomico clinico allo stodio dell'infart della ipofiel i donne puerpere) En mid d. pare 19,3 xf 331

In recent years there has been a vast accumula toon of literature on the function of the hypophyris and the activity of its secretion. The clinical changes which follow dyafunction of the pland are very early identified but the anatomicopathological lesions are not as easily recognified.

In 915 simmonds described the clinical picture of hypophyseal cachezia so well that in 1922 Lich witz proposed calling the condition. Simmonds disease.

Di Gughelmo in a monograph on the neurohypophyseal syndrome described the clinical pic ture of Simmonds disease as characterized by mal nutrition cachena asthenia, somnolence precocious senflity, apathy lowered blood pressure and changes in the skin.

Simmonds disease is very rare. In 1925 Graubner was able to collect only thirty four cases. Recently the number of cases on record has increased but in many instances there was no autopsy report to con

firm the clinical diagnosis.

Simmonds suggested that syphilis may be an im portant cause of the condition as he found it in 42 per cent of the cases and Schmidt found it in 57 per cent.

The author reviews cases of hypophyseal cachema which were reported by Costantini, Lucacer Calder

and others.

In 1914 Summonds collected thirteen cases of circumscribed necroses of the hypophysis following puerperal infection. In eleven the lesion was an embolic process. Seven of the embolic processes were in the antenor lobe and four were in the posterior lobe. In two of the seven cases of involvement of the anterior lobe there was an infarct from a disturbance of the circulation and in the five others there were microscopic emboli.

The author finds it difficult to explain the fre quency of the injercts in hypophyseal areas but suggests that it may be dependent upon the circula

tion of the hypophysis.

Two cases coming under Glornelli s observation are reported. The first was that of a woman of forty years who had had amenorrhora for four months a very high fever sharp pains in the joints especially the right knee, for several days and vaginal spotting and pain in the lower part of the abdomen and across the back for the last twenty four hours. Development in childhood had been normal. Examination revealed a pregnancy of four months duration and manifestations of acute rheu manc fever

The course was very febrile. The patient aborted a four months macerated fetus after several days in the hospital and died on the sixteenth day

Autopsy disclosed enlargement of the heart many subepicardial punctate hemorrhages two large friable vegetations on the mitral valve a turbed myocardium enlargement of the kidneys several renal infarcts renal pus and a purulent exudate in the uterus. On section the hypophysis showed an infarcted area in the posterior lobe. The anterior lobe and para intermedia were uninvolved

The second case was that of a gravida vin thirty four years old. The patient's development had been normal. The last menstrual period occurred May 15 1031 The patient entered the clinic December 18 because of spotting which had gradually in creased to a considerable harmorrhage which lasted about an hour and then ceased abruptly. The find ings of the general physical examination were nega tive except for the changes incident to pregnance

On vaginal examination an eight months pregnancy was found. The fetal outlines were palpable. diagnosis of placents prævis was made. The bi manual examination was followed by considerable hemorrhage. A cervical crearean section was done. Death occurred the following morning

At autopay, the hypophysis was found enlarged and its capsule was bluish red, suggesting an under lying hemorrhage. The usual pregnancy changes were present. The anatomiconsthological diagnosis was anemia of extreme degree in a woman operated upon by casarean section for placenta prayls in farct of the hypophysis (?) hemorrhage into the hy pophysis (?) Microscopic examination disclosed, in the glandular portion of the hypophysis, a blanched and opaque triangular zone with its apex toward the center and its base toward the periphery. This was in marked contrast to the rest of the gland, which was red. A diagnosis of infarct of the hypophysis

The anthor believes that in the first case the proc ess was undoubtedly embolic and in the second st GEORGE C FINOLA M D wea thrombotic.

MISCELLANEOUS

Progress in Obstetrics Interna Eastman N J tional Clinics 1933 il 238

According to reliable statistics 1 000 women die annually in the United States from heart disease complicated by pregnancy and I per cent of all

pregnant women have heart disease.

Gammeltoft and others have found that during pregnancy the normal heart increases its minute output from 40 to 50 per cent. There is also a proportionate increase in the total blood volume to fill the newly vascularized area in the uterus. Ac cordingly the heart must perform about 50 per cent more work during pregnancy than in the non gravid state and must hypertrophy and dilate Ordinarily the large cardiac reserve allows easy compensation in pregnancy but increased effort through exercise may cause dyspacea

The growing uterus and elevation of the dia phragm in pregnancy cause displacement of the heart toward the left upward and in the direction of the antenor chest wall rotation of the heart systolic murmurs in the absence of a history of recent rheumatic fever which are usually heard loudest over the base are noted when the woman is in the standing position as well as when she is re cumbent, and are due to the diminished size of the retrosternal space which brings the larger vessels anterior to transmit the course of coursing blood to the chest wall and accentuation of the pulmonic second sound through rotation of the heart which brings the pulmonary valve close to the anterior chest wall and hence renders its closure readily audible Extrasystoles, crepitant rales in the lung bases due to stasis and engorgement of the neck veins due to an increased venous blood pressure may also be present normally

The signs of a pathological heart in pregnancy include a crescood operatolic or characteristic dias tolic marmur a precordial thrift or definite purian irregular rhythm persisting after exercise, especially if the rate is 120 or above a precordial friction rub and an expansife pubsation of the fiver due to a

relative tricuspid insufficiency

The prognosis depends upon the functional capacity of the heart or the cardiac reserve. According
to their resonant to dimphibil executes. Parise chart

fice patients with heart disease as follows

Cass 1 Patients with organic lesions who are able to carry on ordinary physical activity without disconfort Exercise may cause moderate dyspors and tachycardia but these subside within two minutes. Presumer, labor, and the presengum are

experienced without untoward event.

(Tass 2 Patients with organic lealons who are unable to carry on ordinary activity without dis-

comfort

Subclass 1 Patients whose activity is restricted as, on exercise they develop dyspoora and tachy cardia persisting for three minutes or more. These patients usually undergo labor safely with occasional mild cardiac embarrament.

Subclass 1B. Patients whose activity is greatly restricted as they experience farigue, palpitation, and dyspones after less than ordinary activity. Such patients show physical signs of congestive heart failure or active heart infection, and frequently develon it before the outerporturn is endi-

Class 3 Patients with organic lesions and symptoms of heart failure even during rest. A super-

Imposed hypertension or auticular fibrillation is always maye.

In cases of Class 1 and Class 2 \ the nations should have ten hours of sleep nightly and should nest for half an hour after meals. Light housework and walk ing on the level may be permitted. Infection must he avaided. At the first slope of heart fallers, such as perdatent riles at the lang bases after several deen breaths or dyspaces or exertion, absolute bed rest is imperative. During labor digitalls should be withheld until indicated, and delivery should be performed only after complete cercical dillatation Persistence of the cardiac embarragement regulars forcers delivery under anasthesia induced with ether by the drop method. A tight hinder on the abdomen following delivery will prevent midden cardiac collapse at this stage by preventing splanchnic ensorgement. All women with heart disease should be nt in hed for three weeks after delivery

In cases of Class 2B frank heart failure at any time during pregnancy regulars absolute bed rest for the remainder of the pregnancy, and crastran section under local nitration amesthesia is the method of choice for delivery. The Trendelenberg position should never be used. As a rule, therapeut abor-

tion is pecessary

The treatment of cases of Class 3 resolves itself into the treatment of heart failure. The material mortality is over 50 per cent whatever method of dell ery is used. Decompensation must be over come. Indoubtedly delivery is best effected by casatran section under local infiltration anxisted.

GENITO-URINARY SURGERY

ADRENAL, KIDNEY AND URETER

Kindall, L. Pyelltis Cystics and Ureteritis Cystics Report of a Case Disgrosed by Urography and Confirmed by Blopsy With an Outline of Treatment. J. Urol., 1933 xxix, 645

In the case of pyelitis and ureteritis cystica re ported by Kindall symptoms of obstruction were relieved and the number of cysts decreased by the passage of large ureteral catheters and the instillation of silver nitrate solution. Ampzew McNaLLY M.D.

BLADDER, URETHRA, AND PENIS

Kutxmann A. A.: Diverticulum of the Urinary Bladder; An Analysis of 100 Cases Surg Grace & Okt., 1033 lvl 808

Diverticula of the urinary bladder are commonly diagnosed by cystoscopic and \tay examinations. According to some, the diverticula are congenital whereas according to others they are acquired.

The walls of the diverticula are composed of fibrotic and connective that fibers permeated by inflammatory elements. As a rule they have a smooth glistening lining membrane unlike the blad der mucoza and showing histologically a flattened type of epithelium.

There are no pathognomonic symptoms of di

verticula of the bladder

In most cases treatment has consisted of measures to relieve obstruction. When retention occurs there is urinary stasis with later infection.

The author reports a study of 100 cases seen during the past five years. The majority of the patients were males at the age of greatest frequency of prostatic conditions and in most of the cases ob-

struction was present.

The incidence of diverticulum of the bladder is 12 per cent in usual cases in general 9 1 per cent in cases of benigh hypertrophy of the prostate 16 8 per cent in cases of contractures and median bar obstruction of the bladder 14 3 per cent in cases of urethral stricture necessitating operation and 11 per cent in cases of carcinoms of the prostate

ELEME HES, M ID

ELEME HES, M ID

Goldin E.t Primary Extraperitonization of the Bladder-Voelcher's Procedure—and Second any Extraperitonization of the Bladder-Papin's Procedure (Extraperitonization primitive de la vessie-procédé de Voelcher-et extrapéritonization secondaire de la vessie-procédé de Papin) Ared d'and de reins et d'organes génilements 1933 Vil 129.

Refore describing Vocicker's and Papin's procedures Goldin reviews the anatomy of the bladder

and the adjacent parts of the abdominal wall and peritoneum and discusses the various routes by which the bladder is approached surgically. The routes of approach are

r The anterior route, between the symphysis publis and peritoneal cul-de sac. This limited space is sometimes enlarged by resection of the public bone division of the symphysis with a Gigli saw or open

ing of the pentoneum.

2 The upper or transperstoneal route. The two techniques described in this article are modifical.

tions of this route.

3 The basel route. In the male the approach is made through the perineum, and in the female through the vaging.

Vocicker's and Papin a procedures are both based on the anatomical fact that the bladder is an extra pentoneal organ, but is closely adherent to the peritoneum posteriorly

By these techniques it is possible to explore the entire bladder while protecting the abdominal cavity from contamination.

The steps in primary extraperitonization, Voel

cker's procedure, are as follows

The abdominal wall is divided by a median or a transverse incision.

2 The pentoneal cul-de-sac is identified, the landmarks being made to stand out more clearly by gently distending the bladder with liquid or air

The urachus and umbilical vessels are divided The peritoneum on the upper surface of the

bladder is incised and the bladder raised.

5 From the ends of the first incision a second incision is made with its convexity toward the neck of the bladder and close to the point where the peritoneum is reflected over the seminal vesicles or uterus.

6 The opening thus formed in the peritoneum is sutured so that the abdominal cavity is entirely

shut off from the operative field.

7 The bladder and ureters are explored and after the removal of tumors or stones are replaced

without disturbing the peritoneum

The indications for this operation are (x) tumors of the bladder or ureters (3) diverticula, (3) calculi in the ureters close to the bladder (particularly billateral calculi) (4) vencovaginal fistula and (5) total nephro-ureterectomy

The steps of secondary extraperitonization of the bladder Papin's procedure, are as follows

The abdominal inciden is made through the

skin, aponeurosia, muscles, and peritoneum

2 The abdominal contents are protected from

contamination by packs and the bladder is opened.

3 The peritoneum and abdominal wall are closed laver by laver so that the opening into the bladder is placed outside the pentoneal cavity.

This procedure is indicated for cases of tumor of the anterior bladder wall in which partial evatectomy is performed, diverticula of the urachus large calculi and famile.

The author reports ten cases in which the Voelcker procedure was used and aline in which the Papin method was employed. The article has a good bibliography and numerous illustrations.

Marrie W Poor v. M D

Watson, E. M.: A Study of Carcinoma of the Lower Urinary Tract. J. Ural. 1013, 242, 448

Watson reviews cases of carrinoms of the lower prinary tract which were treated by non-surgical procedures. Among them were and cases of car choma of the bladder In 15 of these the carcinoma was of the parillary or undifferentiated type. In to per cent of the latter the growth had become so large that it could be felt through the rectum or the wants of the varing on digital examination. Thirty two of the us cases were treated by various combina tions of radium irradiation, deep \ray irradiation, and electrocoamilation. Three of the nationts refused treatment and a could not be traced after they had been treated for seven months. Of the as who were traced after treatment, 3 are alive and free from recurrence. In the cases of the 21 who are dead the period of survival after the beaunning of treatment averaged eight months.

Adenocarcinoms of the bladder was treated by deep X ray irradiation and irradiation with radium seeds introduced with the cystoscope. One of the nationis died at the end of one month and another

at the end of six months.

Then were 134 cases of mucous membrane epithesisma of the bladder. This is deeply insilitating and rather rapidly growing tumor. Eighty-cine of the patients with such a tumor were men. Twenty one had had a previous suprapolule operation for bladder tumor and r had had 1 operations. In 73 (33 per cent) of the cases the rumor could be felt through the rectum or the varginal will at the time of the patient's admission to the hospital. The treatment consisted of combinations of deep N ray irradiation, irradiation with radium seeks applied with the cytoscope and tradiation with radium packs. Four of the patients were not treated, Minety are known to be dead and 39 are alive. Of the latter 13 are free from recurrence and 14 still have varying amounts of tumor tissue.

In 22 of the cases reviewed the bladder tumor was a malignant papillona. This tumor is characterized by a papillary arrangement of the cells. Twenty of the patients were men. The average duration of occasional humanturis before the patient came to the hospitul was seven and a half yours. In 3 cases the tumor could be felt through the rectal wall or the varieal want. Following treatment, 2 of the patients could not be traced after they had been free from tumor for periods of time ranging from eight months to seven years. Fourteen died after surviving for an average of two years and one month siter

the beginning of the treatment. Of the 7 who are still alive 6 are free from tumor

There were 13 cases of massive papillary bladder tumors in which the cells augested, but backed the definite characteristics of malignancy. Ten of the patients were men. Four patients, who were free inon tumor when they were last seen, could not be traced. The treatment consisted of redium and deep \(\text{. ny irradiation.}\) One patient died at the end of one year and five months. Eight were alive and free from tumor from one to seven wears after the

In it cases the tumor was a cardnoms of the

ure that. Nine of the patients were men. The treat ment consisted of deep Y avy irradiation radius seed implantation, and the use of heavy radius peaks. There of the patients died siter surviving for an average of tevilve months from the beginning of treatment. Three are allow and first from tumor Our busdered and ninety four cases of cardinous of the proates were treated with radium deep Y-ray irradiation and radium packs. Eleven pathons with this condition reduced treatment. Of

those treated, so are alive after an average of elever months since the beginning of treatment. One ded after eight years and one month, and another ded after ten years and four months. Eighteen additional patients are still under treat ment. Of those with propositic careinoms, so are

ment. Of those with prostatic carefroms, so are living, but show evidence that the disease is still present. ELECTR ILES LLD

Precioso Mascuñán A.: Ten Cases of Cancer of the Pants (Diez casos de epitelloma del pene) frek de med cirug y especial 1913 ziv 411

Epithelioms of the penis is rare as compared with epithelioms in other parts of the body. Its incidence among all malignant needpasms treated in the Sas Juan de Dios Hospital has been a per cent. It is most frequent at about the fifth, fifth year of age. In So per cent of the cares there is a history of oblimosts.

so per cent of the cases tacte as a history of pinnous. Phinosis results in retain conditions which are to be regarded as predisposing to cancer. There is retention of smegma and septic products in the prepatial cavity which leads to a constant discharge and cavity which leads to a constant discharge and suspect nothing until it becomes promise and foul-mediting the first ation becomes exercise and foul-mediting the first ation becomes severe, or a palpable tumor appears beneath the prepatital skin. Path is usually not an early symptom.

Benign vegetations often precede the appearance of cancer, but as no change in the symptoms is noted until an intractable ulceration develops, a series of unsuccessful local treatments is usually given before

the correct diagnosts is made.

The role of applicit culceration as a predaposite factor is often discussed. Some authorities deay that such ulceration has any influence whatever while others claim that they have frequently observed maignant degeneration in applicit is also of the peak. Apparently cancer has developed in neglected appliitible lesions and probably also from chancrolisTherefore any unhealed genital ulcer should be re-

garded as potentially malignant.

As a rule patients with cancer of the penis neelect the condition until the lesion is well advanced, probably because of the fear that amoutation will be rec ommended. Some still perform coltus after the development of large necrotic ulcers. As in cancer of other parts of the body pain is the symptom which most frequently causes the patient to seek treatment.

The author reports ten cases. He recommends radical amoutation with removal of the inguinal glands and subsequent intensive radiotherapy when ever it is possible. WILLIAM R. MEERER, M.D.

GENITAL ORGANS

Nora, G: Tumors of the Tunics Vaginalis (Tumeurs de la vaginale) J d'urel méd el chir 1023 XXXV 5

The author considers only primary tumors of the tunica vaginalia which are quite rare. He reviews their history and abstracts a number of the case reports appearing in the literature. In the first case recorded which was reported by Pousson in 1858 the tumor was a fibroma. The most common tu mors of the tunica vaginalis are sarcomata and the next most common fibromats. The occurrence of cysts and lipomata in the tunica vaginals is questionable. Including the case reported in this article, five cases of endothelioms are known.

The author's patient was a boy eighteen years of age who sought treatment for a tumor in the right side of the scrotum which began to develop in Janu ary 1920 and had increased in size for three months. The neoplasm did not cause any pain or other symptoms. It was troublesome only on account of its size Physical examination disclosed enlargement of the scrotum and a tumor back of the testicle. The tumor was made up of two nodules the lower one the size of a pigeon s egg and the upper one twice as large. A diagnosis of tuberculous epididymitis was made. At operation both the testicle and epididymis were found normal. The tumor was discovered to be implanted on, and to have arisen from the parietal tunica vaginalis. Epididymectomy was performed with total resection of the tunica vaginalis. At no point did the specimen show continuity of the tumor with the epididymis Histological examination proved the neoplasm to be an endothelioma. Eight months later there was a local recurrence, evidently from a bit of the tunica left behind. This was removed and when the patient was seen in June

1930 he was apparently free from recurrence.
Tumors of the tunics vaginalls are rarely diag
nosed before operation When a pre-operative diag nosis is made and the testicle and epididymis are in tact, simple removal of the tumor may be possible but in the great majority of cases total epididymec tomy is indicated.

The tunion vaginalis is made up of two layers one a connective tissue layer containing elastic fibers and covered with muscle fibers and the other a single layer of endothelial cells resting on a thin chorion

Therefore it may give use to various forms of tumor Recently Chevassu has suggested that tumors of the tunics varinalis may arise from embryonic rests at the periphery of the tunica near the testicle and eni AUDREY GOES MORGAN M.D. didymis

Taglisferro P The Aschheim Zondek Reaction in the Diagnosis of Malignant Tumors of the Testicle (La reszione di Aschheim e Zondek nella diagnosi del tumori maligni del testicolo) Arch ital ds ural 1933 X, 171

The author reports two cases in which the Aschhelm Zondek test was of aid in the diagnosis of malignant testicular tumors. However on the hasts of his own experience he is unable to ascribe any value to this test in the prognosis of such tumors.

FRIGURE T LENDY M D

MISCRLLANGOUS

Closed C. Observations on Collbectituria and Colon Bacilius Infections of the Urinary Tract Secondary to Appendicitis (Omervazioni di colibacilluria e di infezioni colibacillari dell'apparec chio onnario di origine appendicitica) Arch. stal de urol 1933 I, 117

Ciceri reports six cases of appendicatis in females and four in males in which elimination of colon bacilli through the kidney caused functional and anatomical changes in the urmary tract. urinary symptoms in such cases are severe or mild acute or chronic, depending on the virulence of the organisms. As a rule the involvement of the urinary tract soon clears up after appendectomy but in an occasional case special surgical treatment of the urinary tract is necessary Eugene T Lendy M D

Barbellion and Lebert: The True Value of the Complement Fixation Test for Generalical (Valeur actuelle de la gonoréaction) J d'arol méd elchir 1933 XXXV 97

Following a brief review of the history and use of complement fixation tests in gonorrhoes the au thors cite the following facts regarding the test

I As a rule the reaction is negative when the pa tient is cured of gonorrhom. 2 Occasionally it may be negative in the presence

of proved generates. 3 Positive reactions usually mean the presence of gonorrhora.

4. Syphilis may cause a false positive reaction . Pregnancy renders the test worthless.

The authors believe that the test should be used in all cases of urethritis, epididymitis, rheumatism and pelvic inflammatory disease in which the usual methods of examination do not disclose the cause and should be employed routinely before marriage. JOHN W EFFON M D

Joly J S. Bilateral Urinary Calculi Proc Rey Sec Med., Lond., 1933 Exvl 923.

Joly discusses only cases of urinary calculi in which stones are found on both sides at the same time. Such cases constitute 9.4 per cent of the cases of atone in the upper urinary tract which are ad mitted to St. Peter a Hospital, London. In Con tinental clinics their incidence varies from 11 to 14 per cent. According to postmortem records, it is nearly so per cent.

Four groups of cases are discussed as follows 1 Cases of calculi due to a special diathesis such as cystin stones. Cystinums should be treated by diet and the administration of alkalies. However stones may form in spite of such treatment.

They can be passed easily Operation is indicated only when impaction occurs.

1 Cases of infected bilateral calculi. When both sides are infected the calculi are often very large and the kidneys severely damaged Infection is usually the primary factor but its source cannot always be determined. The symptoms are mild. Often the only sign of the condition is a persisting myura. If the function of both kidneys is the same, operation may be impossible. Pelvic stones should be removed Stag born calculf should be left alone unless there is evidence of fluid distention of the kidney. When the function of the kidneys

is unequal, an absolutely useless pyonenhrotic Lidney should be removed or drained, but if urine is secreted by both kidneys it is advisable to operate

on the better kidner first.

3 Cases of aseptic bilateral calculi. The calculi in such cases are comparatively small, and it is rare to find more than one stone on each side. If the function of the kidneys is approximately the same simultaneous removal of the stones is ad visable. When this is impossible the interval be tween the two operations should not exceed four teen days. When the function of the kidneys is unequal, the first operation should be performed on the more damaged kidney

4. Cases complicated by anuria. In cases of calculous anuria the obstruction is usually found in the upper portion of the ureter. An attempt should be made to relieve it by the passage of ureteral catheters If this procedure fails or if the annula recurs, immediate operation is necessary Lidney which was obstructed last should be drained. The stones should be removed as soon as the effects of the anuria have passed off

ANDREA MCNALLA M.D.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES JOINTS MUSCLES, TENDONS ETC

Thomas, H. M., Jr : Acropachy; Secondary Subperiosteal New Bone Formation 4rck Int. Med., 1933 ll 571

A colored man twenty two years old was admitted to the hospital in November 1026 suffering from a rather severe form of diffuse gotter with hyper thyroidism which had been present for about two years. Following the usual pre-operative treatment and operation the basal metabolic rate fell from the admission level of 50 per cent above normal to 3 per cent below normal and the patient gained 26 lb After his discharge from the hospital he gained about 30 lb more in eight months. At the end of that length of time he noticed clubbing of the fingers and a change in the swelling of his ankles which previously transitory had become constant and firmer The changes gradually became more marked and there was slight pain on vigorous movement of the hands. In 1929 the basal metabolic rate was -o per cent and roentgenograms showed the laving down of new bone under the periosteum of the bones of the hands and feet and the long bones of the extremities. In April, 1031 the basel metabolic rate was - 20 per cent and the new bone formation had become more extensive. A diagnosis of postoperative hypothyroid ism with accordary hypertrophic osteo-arthropathy was made and supplementary thyroid therapy was instituted. This treatment resulted in improve ment in the symptoms. While no definite change has been noted in the bones since the patient began to take thyroid, thinning of the subperiostesl new bone was suggested after three and a half months.

The author states that this is the first reported case of clubbing of the fingers with subperiosteal new bone formation occurring in association with disease of the thyrold gland. Hitherto this condition has been described as accoudary to supporative intra thoracic lesions, mediasilnal new growths, lung tumors abscess of the liver pyelonephritis cirrhosis of the liver with jaundice certain obstructive lesions of the gastro-intestinal tract, sphillis, or congenital heart disease. The case reported presented none of these features.

othing is known about the mechanism of the bony change in this syndrome. Thomas concludes that the most common cause is a change in the blood flow NORMAN C. BULLOCK, M.D.

Pyrah L. \ and Pain, A B.: Acute Infective Osteomyelitis. A Review of 262 Cases. Bril J Surf., 1033 xx 590

The authors review 262 cases of acute infective esteomyelitis which were seen in the General In

firmary at Leeds England in the ten year period from 1921 to 1930. The total mortality was 27 1 per cent. The yearly number of cases was fairly con stant. The number of males with the condition was more than twice the number of females. The great majority of the patients were between the ages of five and fourteen years. The most common attes of involvement were the upper end of the tibia (62 cases) the lower end of the femur (65 cases) the lower end of the femur (50 cases) the lower end of the fibia (27 cases) the upper end of the fibia (15 cases) and the lower end of the radius (13 cases)

The great frequency of the disease in the neighbor hood of the knee joint is explained by the frequency of traums and sprains in that region, the good meta physical blood supply and the size of the epiphysis. In most other series of cases the incidence of the disease in the humerus was much higher than in this

series.

In many of the cases reviewed by the authors a history of traums, either a blow or a sprain was elicited. As a rule the injury was austained in the last two weeks. Also frequent was a history of a recent exanthem or a superficial infection. In many cases the child had been fretful and ill for several days before the onset of the pain.

In 90 per cent of the cases in which a bacteriological examination was made the staphylococcus aureus was found to be the causative organism

Of the 71 fatal cases autopsy was performed in 51 nall except 6 of the latter pyemic leasons were found. Mentioned in order of decreasing frequency the most common findings were pericarditis, abscesses or infarctions in the lungs renal abscesses acute pleurisy and empyema. Twelve patients recovered after treatment of pyemic lesions 1 after drainage for empyeme and 1 after drainage for popericardium

As a rule the symptoms had been noted for less than seven days before the patient's admission to the hospital. While in many of the cases the temperature was below 100 degrees F in the

majority the pulse rate was 120 or more

The disgnosis was usually easy except when the lesion was at the upper end of the femur. An important sign of involvement of the upper end of the femur is tenderness over the trochanter and in Scarpa a triangle. The authors call attention to the frequency with which esteomyelitis of the small bones of the foot suggests cellulitis of the foot and the correct diagnosis is not made until a draining sinus persusts and the foot is examined with the recentgen ray.

All of the cases reviewed were treated surgically In 64 the operation was limited to simple incision and drainage of the subperiosteal space because the infection seemed to be limited or the patient was too lill for further attempts at drainage. In 16 of these cases a secondary operation was necessary in so selected cases primary disphysectomy was per formed with only r death. In 5 it was done on the flouls, and in 6 or on the radius. In the more acute case, especially those with involvement of the femurand tibis, the guiter operation was the routine procedure. The removal of bone should extend up into the metaphysis. Of 17 op patients treated by the guiter operation, 3r died. Of a patients treated by Orn's method both died.

Next to pyemia and septicemia, the most important complication was infection of a neighboring joint. This was most frequent in osteomyelitis of the upper end of the tibls. In the treatment of the latter it is important to carry the periosteal incision up to the epiphysical line. An infected joint about to opened early if no improvement follows saying tion. Amputation must also be considered early 07 44 cases in which acute arthritis developed,

amputation of the leg was done in 12

For spreading infection of soft tissues the accepted treatment is rest and the application of heat until localization and pus formation occur, and then incusion and drainage. It appears that the same principles should be applied to osteomyelitis. Cases of great severity should be treated by simple periosteal incision. The bone should be opened only when it contains demonstrable pus. The presence of our in the bone can be determined by exploring with a trephine or drill. Of the cases reviewed, the mortality was lower (15 per cent) in those treated only by periosteal inclaion than in those id which the gutter operation was performed (so.5 per cent) in spite of the fact that in many cases the more con servative operation was chosen only because the condition of the patient was considered too critical for a more radical procedure.

CHIERTER C. GUY MLD

Slocum, M. A., McClellan R. H. and Messer F. C.: Investigation into the Modes of Action of Blow Fly Maggots in the Treatment of Chronic Osteomyelitis. Pennykenie M. J., 1933, 2214,

It seems to be generally agreed that the presence of live maggots in osteomyelitic wounds removes necrotic tissue promotes healthy granulation, and causes a prompt diminution in the number of

bacteria present.

The removal of alongia has been ascribed to the supposed ability of the magnets to chave or tear the necrotic thans and to the action of an enzymic substitution. It has been reported that an active principle with bacteriddal properties may be located from a filtrate of crushed magnets. Beer suggested that the diminution of bacteria may be due to the increased alkaliality of the wound scretches which he noted following the introduction of magnets.

The authors have succeeded in showing that maggots produce a secretion with a weak protec-

lytic action, and that their dipertive tract contains a proteolytic enzyme of high potency. The healing process in the wound is dependent partly on the fact that only a weak liquedying solution comes in conact with the patient a tissues, whereas the strong enzyme is present only within the maggot, where it completes the digestion.

The authors studies demonstrated also that magnots have a bactericial action. A series of bacterical action is bacterical action, a series of bacterial counts made from the wound secretions in cases of chronic osteomyelitis showed that although there was a noticeable fluctuation in the number of bacteria in healing wounds, the general trend was

always downward.

It was found that maggets render the wound alkaline by forming ammonia. A relationship be tween the degree of alkalinity and the number of bacteria was noted.

No bactericidal power could be demonstrated in crushed maggots or extracts of maggot tissue.

NORMAN C. BULLOCK, M.D.

Bromer R. S. and Downs, E. E.: Tuberculosis of the Diaphysis. 4m J Reenfernel 1933 2rd, 617

The authors report a destructive tuberculous lexion involving the middle portion of the left fibula of a man seventy-six years of age. When the patient was examined at another hospital because of swelling of the leg, a diagnosis of bone cancer was made and amputation urged. Roentgen ray examination by the authors led to a diagnosis of low-grade osteomyeliths The Wassermann test was negative. The diagnosis of tuberculosis of the epiphysis was made by aspiration and guines-pig inoculation. Treatment consisted of deep incision and curettage. Healing resulted promptly and there was no recurrence in fourteen months. Later, however a localised swelling developed at the right elbow and was treated at another hospital by inciden and drainage. The patient states that drainage has persisted since then. No guines pig inoculations were made at that

This case report is followed by a review of the literature on lesions of the type described. The condition was reported by Boyer in 1803 under the name "spins ventous. The tuberculous nature of spins ventous was sfirmed by Nélaton in 1817.

According to their location, tuberculous ledous of the long bones have been divided into two main groups (1) those in the disphysics-epiphysical region, and (3) those in the disphysis. The former are the more common. The various theories advanced to explain the frequency of the lesions in these regions are discussed.

The cases and classifications of Hildebrandl, Zumsterg Schins, Sorrell, Sorrel-Dejerios, Fried laender Allison, Fisher, Juengling, and Greg are reviewed. Casas modification of Kuettner's classification is as follows:

 a. Primary in the shaft. This may be second any to a tuberculous focus not in the bones.

- b Primary in the metaphysis and spreading from there to the shaft
- from there to the shaft
 Primary in the joint or epiphysis and spreading
 from there to the shaft.

a. Progressive infiltrating tuberculosis

b Caries carnosa,

A type similar to a and b, but characterized by a chronic course and a better prognosis.

The author believes that the lesson in his case was of the less common second type described by Casn This is a peripheral lesion According to Krause, it occurs most frequently in young persons with other old or recent tuberculous fod. However it may occur also in persons of any age who have shown no previous evidence of tuberculosis. The bones most commonly involved are the humerus ulns, and tibia

The following roentgenological classification of

diaphyseal lesions is presented

I Lesions confined strictly to the disphysis

The destructive superficial type.

b The periosteal or productive type, which is much more frequent.

2 Lesions involving the diaphysis the metaph

ysis, and often the epiphysis

a. The productive periosteal type

- Lesions presenting a large, sharply defined area of rarefaction involving the metaphysis and extending across into the epiphysis.
- c. Tuberculous osteomyelitis involving the major portion or very often, all of a long bone. ROBERT V FUNSTEN M.D.

Harris H. A., and Russell, A. E. Atypical Growth in Cartilage as the Fundamental Factor in Dwarfism and Achondroplasis. Proc Ray Soc Med., Lond. 1933 xxvi, 779

In an attempt to find an explanation for certain disorders in the growth of bone especially in achondroplasia the authors studied anew the mode of growth of cartilage in the mammalian embryo Cartilage more than any other tissue in the human body displays a constancy of morphological charac teristics. In a study of proliferating cartilage from the ends of the long bones in the human embryo it was found that most active growth as judged from the presence of mitotic figures occurs in a ring shaped zone below the free surface. On passing from this zone of active mitosis toward the free surface toward the center of the cartilaginous epiphysis and toward the shaft the cartilage cells become progressively older As they become older they undergo degenerative changes those at the center of the epiphysis becoming calcified from deficiency in nutrition. In the diaphyseal region the cartilage cells become arranged in longitudinal and transverse columns with an intercellular matrix which under goes calcification Capillaries from the marrow of the shaft invade the zone of cartilage bringing primi tive fibroblasts which differentiate into osteoblasts These remove the calcified cartilage and lay down

bone in the longitudinal and transverse columns or trabecule. Many of the former and most of the latter disappear but the trabecule which remain assume the pattern stready delineated in cartilage during the earlier process of proliferation. This pattern is hereditary. It is present in the embryo before the development of muscles, and is seen to be present even when the rudiments of the limb of a chick embryo are grown in tissue culture. It is therefore not due to muscle pull, atress or tension, as is assumed on the basis of Wolff's law. The process of caldification in cartilage is regarded as the unique means whereby the hereditary form of bone can be maintained throughout life.

In a study of the ends of the long bones of an achondroplastic newborn infant to determine how the bone growth differed from the normal, it was found that the normal process of calcification in the matrix of the epiphyses was replaced by a nucoid degeneration which occurred in several areas. Between these areas calcification and bone formation took place, resulting in multiple irregular centers of ossification instead of a single center. In the epiphyseal cartilage adjoining the shaft the cells did not arrange themselves in the normal longitudinal and transverse columns, and a dense transverse bar

of bone adjoined the marrow cavity

In a study of the epiphyses of a child of elevem months with congenital deformaties it was found that mucoid degeneration was present in the region of the zone of the most active cartilage growth Where this degeneration occurred there resulted collapse of the epiphyses accompanied by patchy ossification or stippled epiphyses and chronic arrest of growth of the long bones. This pathological picture is most marked in achondroplasis. It is seen also in the vertebre where it results in irregularities in the size and shape of the vertebra bodies. The cause of mucoid degeneration in cartilage is unknown.

Siegel L., and Zachau H.: Studies of the Development of Bony Ankyloses (Untersuchungen ueber die Entstehung knoecherner Ankylosen) Deutschs Zitche f Chir., 1033 ccxxxix, 205

The nature of the development of bony ankyloses is not yet uniformly explained. We lack especially exact knowledge as to the conditions under which and the form (whether osteoplastic or metaplastic) in which the ossifications occur in the joint. The authors review the prevailing different and partly contradictory views regarding the development of bony and congenital ankyloses, and the importance of arthritis, immobilization and articular trauma in the origin of the former.

They then report their histological studies of an kyloses in tuberculosis gonorrheal arthritis rheu matic processes osteomyelitis (suppurative arthritis) and traumatic conditions (fractures)

New bone formation in the connective tissue originating from the articular capsule was not observed in fibrous ankyloses. From the results of the study

the possibility of a metaplasia of this connecting link of evpoydal ordeln into fibrous cartillage may be segmed. The findings permit the conclusion that the cells of the blood vessel walls may become boneforming cells. The development of a hony ankyloris with persisting articular cartilage occurs most often by enchandral assistantion in which astenblasts from the bone-marrow cells or the cells of the blood vessel walls act as home formers. A prerequisite for bony union of the cartilarinous articular surfaces changed in this way is the disappearance of the fibrous connective timuse filling the articular space. This is destroyed by pressure or less frequently changes into fibrous cartilage. In addition to this type of configuration there is a direct change of fibrocartilastnous rests of the original articular cartilage in the hone With complete destruction of the articular cartilage the bone formation proceeds in a germinal tiasne growing into the articular space from the opened medullary spaces. F O MATER (Z)

Pern, H.: The Treatment of the Joint Lesions of Arthritis Deformans. Med J. (astrolia, 1933, 1 571.

In case of joint lessons of arthritis deformant the author follows the line of treatment advocated by Sir Robert Jones which consists of a carefully balanced combination of rest and active and passive motion. He divides the arthritic joints into the following three groups (i) joints affected by each inflammation, (i) joints affected by subscript inflammation in its various stages, and (j) stiffened joints with vary ing amounts of destruction but no apparent in

In Perna cases of Group 1 a woolen bandage is applied with some pressure to reduce the swelling and at intervals of from two to four days is removed for a single movement of full range. Weight bearing and painful motion are avoided. If the joint is not put at rest fresh treatms will be produced each time it is moved actively and chronic inflammation will be set up. If rest is prolonged and complete, adde sions will form even though the inflammation is curred.

In case of Group 2 the joint loses its stability from overstretching of its cappule and waskening of its supports. If active movements are performed the joint is used mechanically locorrectly and further inflammation is set up. The amount of rest required can be accurately estimated from the amount of inflammation present. Until the inflammation subsides there should be very little active movement the joint. When a patient under this active movement the most he may overwork the joint when it has become more he may overwork the joint when it has become

inflamed.

In discussing the treatment of cases in Groop 1 the suthor takes up the specific treatment of spinal lesions, lesions of the upper and lower extremities, and the joints of the upper extremities. He outlined to the types of certains which he prescribes and discusses mobilization by continuous force by meaning the prescribes, the breaking down of adhesions at

one or two sittings, and the gradual breaking down of obstructions at frequent intervals.

Pero suggests that arthritis may be due to dis-

turban condition that the standard be server form of the roat type occur a period of notices and activity and natability the mild chronic rheumathan did duction and the roat of the roat in the roat of the roat

Cecil, R. L.: Rheumatoid Arthritis. A New Method of Approach to the Disease. J in M in 1933, c 230

In the last forty years our knowledge of arthrifts has been advanced by (1) recognition of the two great types of chronic joint disease now usually reterred to as 'themasted arthrifts and osterathritis, (a) Billings theory of focal infection, (s) modern beterfology and servlony (4) stedies of the relation of the carbohydrate metabolsm and of viamins to arthrifts, (5) new metbods in the application of physical therapy hydrotherapy and considerable and the present of the property and the present of the property and the property a

A classification recently adopted lists 6 types of arthritis infectious (rheumatoid) degenerative (osteo-arthritis hypertrophic arthritis) allergic,

traumatic, metabolic, and neurocenic,

It is important to distinguish between rheumatoid arthritis and cateo-arthritis. The former is primarily a disease of the avnovial membrane and other soft parts of the joints in which microscopic examination shows peculiar clumps of lymphold cells and roent gen ray examination discloses, first a haziness of the interarticular space and bone rarefaction, and later cartilage destruction, apposition of the surfaces, and possibly fusion. Osteo-arthritis involves the hard tissues of the joint, causing fibrillation and thinning of the cartilage condensation and eburnation of the bone, and bony spiculation and hypertrophy of the articular margins, but no fusion of the surfaces. These differences suggest that the 2 types are distinct entities due to different cames. The granula tion these in the joint the clinical course the symptoms, and the laboratory findings indicate that the rheumatoid type is a chronic inflammatory process Hypertrophic arthritis, or orteo-arthritis, appears to be a degenerative lesion which is possibly aggravated by toxic or metabolic factors, but is not due primarily to infection

In theumatoid arthritis, focal infection is of great importance. Of 1 45 cases of this disease reviewed by the author in 1990 arreptococci were soluted from the blood in 50 per cent and were found also in the joints in 67 per cent of those in which joint cultures were made. As these organisms will produce the disease when they are injected into rabbits and as the serum of most patients with rheumatoid arthritis contains specific aggluiding for them, there seems sufficient evidence to warrant the conduction that a

causative organism has been discovered.

Sedweral investigators have found that the average sedweral investigators have found that the average sedimentation index is definitely higher in their matoid arthritis than in osteo-arthritis, and the conclusion has been drawn that any case with joint symptoms and a sedimentation index above r may be considered a case of infectious arthritis if other forms of infection can be eliminated.

Of a small series of cases of arthritis in which Schilling homograms were made, the rheumatold groups showed a distinct shift to the left which was not shown by the esteo-arthritic group. This con attitutes (urther evidence of an infectious origin of

rheumatold arthritis.

The modern clinical laboratory can aid in the differential dispnois of arthrins by cultural studies of the blood and joint fluid agalutnation tests of the blood with the streptococcus harmolyticus aedi mentation tests and Schilling leucocyte counts. These procedures will prove useful also in determining the response to treatment and the prognosis.

In osteo-arthritis, reduction of weight by a low calorie diet the administration of thyroid extract when the metabolic rate is low the correction of posture by orthopedic measures, and physical therapy are of value. Visceine is useless. The removal of foci of infection should be undertaken only to protect the patients health and not with any hope of curing the degenerative process in the joint.

In rheumatoid arthritis the elimination of focu of infection is the chief therapeutic indication. Physical and mental rest is very important. The diet should have a low carbohydrate and a high vitamin content. Good elimination and a copious water intake are necessary. Heat, exercises and massage are value ble. In cases showing no improvement under treat ment by these measures, the hot, dry climate of the Southwest may have a good effect. Streptococcus vaccines administered intravenously are sometimes beneficial. They should be tried for at least a few months and then discontinued if no improvement is noted. The only drugs of value are iron for anemia arsenic and strychnine as tonics, and salicylates for the relief of pain. When deformities result, orthopedic surgery may be of great benefit.

CRESTER C. GOY M D

Jeanneney G.: Seven Cases of Chronic Ankylosing Rheumatism Treated by Parathyroidectomy (Sept. cas de rhamatisme chronique ankylosant traités par parathyroidectomie) Berdelarckir 1932 No. 2.147

In the first of the seven cases of chronic ankylosing rheumatism reported by the author there was slight improvement after the operation and in three there was marked improvement. One patient dued on the twentleth day, and one on the twenty seventh day, lat two cases there was considerable improvement and in one there was now.

In the cases in which the parathyroidectomy was beneficial the pain stopped immediately after the operation and there was improvement in function as a result of the relaxation of the protective con

tracture. However, the disability from the ankylona was not affected at all or was not affected until late. The swelling of the joints subsided, the trophic skin symptoms were cured, and the blood calclum fell to normal or even below normal. The roentgen appearance of the bones changed little. In one case there was slight recalciffication after several months. Leriche estimated that the improvement persists for verans or permanently in 32 per cent of the cases.

The author's cases showing improvement were those of painful ankylosing arthritis without a history of infection or gout and with hypercalcaemus In two cases the parathyroids were not found. In one of the latter the operation was a complete failure but in the other it was followed by marked improvement which was attributed to the ligation of all four thyroid arteries. The failure is explained by the assumption that the condition was probably tuberculous arthritis. One of the deaths was caused by pneumona but was preceded by signs of hypoparathyroidism. The other was apparently caused by late parathyroid insufficiency. The reassance of persons with chronic ankylosing theumatism is not very great. The author states that he intends in the future, to perform only unitateral operations.

When there are signs of hypoparathyroldism immediately after the operation, calcium and irradiated ergosterol should be given. Care should be taken in the mobilization of the joints which are no longer painful. If operation is done with care to avoid hypoparathyroldism it promises to be of great value.

AUDREY GOSS MORGAN M D

Dawson M H and Boots, R H. Recent Studies in Rheumatoid (Chronic Infectious, Atrophic) Arthritis. New England J Med 1033 (cviii 1030)

Rheumatold or atrophic arthritis must still be con sudered a disease of unknown causation. However, it presents many of the characteristics of an infectious process. There is often a history of an acute in fection of the upper respiratory tract such as a common cold, pharyngitis tonsillitis peritonsillar abacess or amusitis. A low grade fever accompanied by a slight leucocytosis is a common manifestation of the disease Frequently the pulse is rapid, and In over 80 per cent of the cases there is dehnite anemia Muscular atrophy occurs to a degree too considerable to be ascribed to mere disuse. The pa tient almost invariably loses weight and appears chronically ill. All of these clinical features are consist ent with infection. Until recently the theory that rbeumatoid arthritis is related or due to infection was based on purely clinical findings but in the past few years it has gained considerable support from bacteriological and pathological investigations

According to some the disease is caused by the growth of the infecting organisms in the tissues affected. According to others it represents a re action to a focus of infection elsewhere which is of the nature of an allergic phenomenon or a simple toxic reaction to noxious products absorbed from the

primary focus.

The authors findings and conclusions are sum marized as follows

- Contrary to the results of certain other in vestigators, streptococci could not be recovered from the blood or tissues of patients suffering from rhenmatoid arthritis
- At a temperature of sc degrees C, the serum of matients with rheumatoid arthritis usually pomesses the canacity to applicatinate atrains of atrentococcus he-molyticus to an extraordinarily high titer. This agelutination is a very characteristic phenomenon but further work is required before conclusions can be drawn with regard to its aignificance

 Subcutaneous nodules which show a striking histological resemblance to those occurring in rheumatic fever have been observed in approximate ly ro per cent of cases of rheumatoid arthritis.

- The sedimentation rate of the erythrocytes in rheumatoid arthritis parallels to an extraordinary degree the severity and extent of the arthritic process. The test constitutes a convenient method of evaluating the results of therapeutic measures and is useful as an aid in the differentiation of rbeumatoid arthritis from osteo-arthritis.
- c. While vaccine therapy may be accorded a trial in the treatment of rhenmatoid arthritis, its value has not been determined. In cases of osten-arthritis there seems to be no justification for the use of vacdoes
- 6 Pathological and immunological evidence confirms the clinical impression that rheumatoid arthritis is a clinical entity and suggests that the condition is of infectious origin. H. FARLY CONVENT. M.D.

Guibal, A. and Montagne, J : Outcomvelitis of

the Scapula (Lostéomyflite de l'omoplate) Res d cher Par 1012 Hi 268.

The authors have recently observed a number of cases of acute infection of the scapula which called their attention to the difficulty of diagnosing osteo-myelitis of this bone. This difficulty is due largely to the complex structure of the bone which is of such a nature that infections of different parts of it simulate inflammations of other regions.

The bone has ten centers of outfication and a number of ridges and processes which together with the muscles and sponeuroses, outline a number of former and spaces which drain in different directions. There may be multiple foci of osteomyelitis and fetule from supportation open at various points. Suprespinal foci apread toward the neck, subspinal fool toward the back, subscapular fooi toward the wall of the thorax anterior foci toward the scapulohumeral joint, and axillary foci toward the axillary space. When the infection is multifocal the inflammation may invade the whole region

It is important to know the different localisations in order to suspect osteomyelitis of the scapula when symptoms point to different regions and in order to choose the correct route of approach to the diseased part of the bone

The topography of the region is described in detell with filmstrations, and cases of involvement in the different locations are reported.

ATTREET GOES MORGAN M D

Richard A., Delahaya, A., and Caivet, J : Observa-tions Regarding the Clinical Aspects and Treat ment of Sacrocoxaltia (Remarcaes clinious et therapeutiques out is surm-correlate). Res d'artis à 011.10 07

Thirty-six cases of sacrocovalets treated by the authors are reported. The case histories are emplemented with roentgenograms. Twenty-six of the nationts were adults. The course of the disease is muite different in children and adults. While in both, the initial lesion is in the hope and the joint becomes involved secondarily in the child the primary esteitis which is semerally in the flium, is at a distance from the joint and for a long time the clinical and mentern signs are those of a simple estellis which may be cured before it reaches the Joint involvement is always late. In the adult involvement of the joint is much more rapid. The differences between the joint of the child and adult which are responsible for the variations in the course of the disease are shown by mentgenorrams.

When the point is threatened its defensive forces are mobilized. In the early stages there is a tend ency toward anontaneous healing by fibrous anky losis or synostods

In the child the characteristic feature is a long period without functional disturbances during which abscess is the only sign of the ostellis. Later there is minful limping and the roentgenogram shows an old lise lesion with late invadon of the joint and trophic disturbances. If the ostellis is recognised and treated in time, the joint involvement may be pre vented. At first the only signs suggesting ostelitis are slight peoitis, deep infiltration of the buttock, slight muscle atony, slight difficulty in walking, and a fever characteristic of tuberculous or the presence of a focus of tuberculouis elsewhere in the body Rest in bed and immobilization will often bring about spontaneous retrogression. In some cases curettage of fungodities or removal of sequestra may be necessary

In adults there are five signs on which an early diagnosis may be based. Two functional signs are pain in the sacral roots and painful limping Two roentgen signs are sacro-illac diastasis and displace ment at the symphysis publs, the bone on the discased side being pushed up farther than the bone on the normal side. In addition to these signs there is pain on digital examination of the joint, which is demonstrated best by rectal palnation.

When sacrocoralgia reaches the stage of abscess formation it is severe. The surgeon should attempt to prevent its reaching this stage.

The present tendency in treatment is to bring about immobilization as early as possible by opera tive ankyloris. The two methods used are transarticular and extra-articular arthrodesis by means of grafts taken from the tibia. In two of the authors cases it was necessary to resect the posterosuperior spines of the illum. AUDREY GOSS MORGAN M.D.

Borsotti P C.: The Pathology and Surgery of the Articular Meniaci of the Knee (Patologia e chirurgia del meniachi articolari del ginocchio) Arch ital di chir, 1933 xxxili, 199.

Bornotti reviews the anatomy and physiology of the articular meniscr of the knee joint, reports his observations in 147 cases in which operation was per formed for disturbances of these structures discusses the embryological development of the meniscl from the fiftieth day of intra uterine life to birth, and describes the degenerative changes that occur in the meniscl doring life and are found in the cadaver

In his discussion of the pathology of the meniscihe reports a case of meniscrits, that of a patient
thirty years of sge with symptoms referable to a
lesion of the internal meniscus. At operation, the
meniscus was found thickneed, swollen, and definitely inflamed. The synovial membrane was also
inflamed. Ercision of the meniscus was done. Examination of the excised specimen revealed no signs
of fracture. Histological examination disclosed evi
dence of chronic inflammation in the capsule and the
outer third of the meniscus. It was difficult to deter
mine whether the inflammation of the meniscus was
primary or secondary to inflammatory processes
elsewhere in the joint. However the patient was
relieved of symptoms following the removal of the
meniscus.

In an experimental study of the reaction of the menisci to staphylococcus infection of the joint Borsotti found that the menisci become involved in the inflammation early and undergo extensive degeneration.

In order to determine the reaction of the semilunar meniaci to general infections, Borsouti made a postmortem study of the meniaci of persons dying from acute infections. His observations indicate that the meniaci do not participate to any degree in the general infectious process. However in a case of orteomalacia he removed a mensurs that consisted solely of dense fibrous connective tissue.

The histological changes found in menisc removed by operation usual comisted of the combination of a degenerative and an inflammatory process. In the menisci which were dislocated but not fractured there were practically no structural alterations, described in the process of ros fractured menisci oo showed definite histological changes. One specimen presented evidence of spontaneous repair. The author believes that spontaneous repair is uncommon as the fractured fragments must remain together and this is almost timposable in the knee.

Regeneration of the meniscus was studied experimentally in rabbits. An regeneration of cartilage was noted but hypertrophy of connective tissue at the site of excision was common.

The relation of the lesions of the menisci to arthritis deformans is discussed. Destruction of the

meniscus may occur in this joint disease and the author believes that repeated neglected injuries of the menisci may predispose to arthritis deformans. Removal of the meniscus arrests the course of the arthritis. Meniscectomy does not predispose to arthritis deformans.

The author reviews traumatic lessons of the menisci and discusses their development pathology symptoms, and diagnosis. The article contains several roentgenograms taken after the injection of oxygen into the knee joint to outhout the fractured meniscus. Borsotti finds this method of considerable diagnostic value. He describes the technique of the injection in detail. He has noted no unfavorable effects from the procedure.

Treatment of the injured meniscus consists of early surgical removal to prevent inflammators and artimitic changes. Donati a method of approach to the joint through a transverse slightly curved in caion 7 or 8 cm. long is described. This incision be gars at the margan of the patellar ligament curves downward and postenorly so as to cross the inter articular line at its lowermost portion and ends about o 8 cm. above the interarticular line posteriorly. The capsule is incised transversely. The collateral ligament need not be incised unless more exposure is necessary.

After the operation mobilization is begun at about the fourth or fifth day and is accompanied by massage of the quadriceps group of muscles

Borsotti reports a case in which a synovial cyst was found in a fractured meniscus. He discusses the theories concerning the causation and reviews the symptoms and surgical treatment of such cysts.

PETER A. ROSE, M D

Speed J S and Binke T H: March Foot. J Bone & Joint Surg 1933 xv 372

March foot is a clinical entity characterized by painful swelling of the forefoot. It was first de scribed in 1855 Since then little has been added to our knowledge regarding it except that it is often associated with a spontaneous fracture of one of the metatarial bones. There is seldom a history of direct trauma, but practically all patients with the condition report excessive foot strain. German and French surgeons have reported many cases in soldiers after long forced marches hence the name.

The pain is at first indefinite and associated with tenderness over the second or third metatarsal bones anteriorly. It is followed by an oedematous swelling of the dorsum of the foot with local redness and heat. The condition is benefited by rest but recurs with use of the foot. In the later stages a firm tumor like mass can be felt attached to the bone.

Clinically two types of the condition are recognized a mild type in which the dissbillty lasts from one to two weeks and is not associated with roent genographic evidence of a bone lesion, and a more severe type in which the disability lasts for from two to three months and is associated with periosteal proliferation spontaneous fracture and excessive callus formation. The fracture line may excape detection as it may be obscured by callus or may be so fine that a good roentgenogram and a magnifying glass are required for its visualization.

The incidence of fracture is reported by different surpeons at from so to go per cent. Its variation is explained by the fact that civilians usually seek mention and the second surpeon of the second and by the fact that when roentgenograms are made the fracture line is often overlooked. The fracture is practically signsys limited to one metastanal. Dis-

placement of fragments is unusual.

The progress of the bone lesion was followed in several cases by a series of contiguograms. From one to three weeks after the onset of symptoms protected furziones appears with or without a fracture line. Later there is an excess of calless and a fracture with an irregular outline is seen distinctly. The callent then becomes denser and a spindire thanged mass which may be taken for a sarcomal later the bone appears normal except for alight residual link-thening of the corter.

The cause of the condition is still unknown, but is undoubtedly succitated with foot strain Foot strain may weaken muscles and relax ligaments, thereby exposing the metaturals to unusual tension and traums. A disturbance of function of the antersor metaturals arch seems probable but it is not known whether this produces the fracture by traums or by altering the nutrition of the bone by causing a

chrolatory disturbance.

The treatment of march foot abould unclude reat, but applications, and relief from weight bearing Physical therapy and exercises are also beneficial. When walking is resumed, a proper arch support or strapping is advisable. When fracture has occurred the average period of disability is from four to eight weeks. The prognosis for ultimate recovery is always good.

The authors briefly review aine cases. Several of the case histories are supplemented by roentgenograms. Caustus C. Gov M D

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC

Haldeman, K. O: The Influence of Periosteum on the Survival of Bone Grafts. J B at & J int Surv 913, xv 101.

The controversy regarding the mode of repair of bone had, as its natural sequel, the dispute as to the marvial and growth of the various types of graftly dispute the product of a product of the product of a product of the product of the product of a product of the product of a product of the product of a product of the

salts in an ordenatous embryonic type of connective tissue

Whether or not a bone graft continues to live and the parts played by its various components in its survival are of great importance in the surgery of bones. Older believed that a piece of living periodteum-covered bone continues to live and grow effer in transplanation to a bony bed. Barth in 1854 maintained that all parts of a transplanted bone die and are replaced by a new growth of bone from the art in which the transplant is placed. During the other properties of the properties of the continues of the plants of the plants of the contoning terms of the plants of the concept of the plants of the plants of the conbone grafts to the implantation of dead bone. However the clinical results during that decade demonstrated the superiority of living grafts.

Recently Phemister and others have shown that the dead portions of a graft are formed into living bone by the process of creeping substitution in which the periosteum, endosteum and cells of the

havernan canals of the graft play a part.

The experiments reported by the author were curried out to determine the fate of the different types of bone grafts under conditions resembling those found clinically in the bope that conclusion might be drawn regarding the relative importance of perfositeum cortex and endosteum in the success of grafting.

Bone-grafting operations were performed on twenty two rabbits between four and eight months old A defect was produced in each radius and the gap bridged by a graft taken from the tible or fibula of the same rabbit. The ends of the graft were fixed in the open ends of the radius as an intramedulary As two bone-grafting operations were per formed on each rabbit it was possible to compare the various types of transplants under the same conditions in esthesia was induced by the lates peritoneal injection of 0.060 gm. of sodium amytal per kilogram of body weight. The operations were performed with an asentic technique and were fol lowed by normal healing without infection. No splints were necessary as the intact ulna prevented undue movement. After the operation roent genograms of both foreless were made at weekly intervals until the fate of the grafts became apparent. The animal was then killed and the radius and graft were studied microscopically. In certain cases the animals were sacrificed after three or four weeks to determine the earlier changes occurring around the

It was found that a graft composed of the entire fibule survived longer and favored earlier closure of the defect than a graft of fibule without perionteum or a spit fibule. A periocated graft free from bone produced early closure of the defect in every case. The esteoperisated graft also resulted in early closure of the defect, apparently through the activity of the periodneum rather than the time pieces of cortex included in the graft. A comparison of cortical grafts with and without periodneum showed clearly that the presence of periosteum on a graft favored early closure of the defect and survival of the graft. The author draws the following conclusions

r Perioateum is the most important part of a bone graft as regards both union of the fractured

bone and survival of the graft.

2 In the absence of periosteum on the graft, union of the fracture is delayed or falls to occur and the graft dies and is finally absorbed.

1 The bone cells of a graft die within a few days. The framework of the graft may then be revitalized by living cells spreading outward from enlarged havernan canals, a process which may be called creeping substitution. H. EARLE CONWELL, M.D.

Salmon M and Contindes A J: The Surgical Treatment of Spondylolisthesis (Traitement chir urgical du spondylolisthésia) Rev Cottop., 1933

A case of spondylolisthesis in a sixteen year-old girl is reported. When the patient was first seen, the deformity was of two months duration. It had appeared without apparent cause. The patient complained of pain localized in the lower lumbar and sacral region. Operation consisted of exposure of the sacrum and the third, fourth, and fifth lumber vertebræ and the introduction of a thick osteoperiosteal graft on both sides of the spinous processes After the operation a body cast was applied and immobilization was maintained for two months. The immediate results were excellent and three years later the patient remained functionally cured.

Twenty five cases of spondylolisthesis treated surgically are reviewed from the literature

The emential lesion appears to be faulty development of the vertebral pedicles. There is a gap in the bone filled by fibrous tissue which in stretching allows the body of the vertebra to alip forward on the sacrum. The arch remains approximately in its normal position Because of these facts, surgical treatment by the introduction of a graft or other means of fixation was for a long time regarded as uscless. However if the fixation includes the lower three lumbar vertebrae, it is beneficial. One of the most important functions of the graft is to re establish the normal statics of the pelvis by carrying the weight of the vertebral column more posteriorly with respect to the sacrum,

The operations of Hibbs, Albee, and Campbell are described. The authors prefer the more simple operation performed in the case they report.

ALBERT F DE GROAT M D

Bankart A. S. B : The Treatment of Tuberculous Disease of the Hip Joint Brit J Surg 1933 ER 551

Bankart states that it is musleading to speak of joint tuberculous as a local manifestation of general tuberculosis. The joint condition should be con sidered rather a metastatic infection due to the accidental detachment of a minute tuberculous embolus an accident which is not likely to be re

peated often as is evidenced by the rarity of multiple oint tuberculosis. Tuberculosis of the hip or knee a as much a local disease as the primary focus.

A small tuberculous lesion may produce general immunity of the body by the elaboration of small doses of tuberculin but a large lesion producing excessive amounts of tuberculin may reduce the immunity It would therefore seem that when possible a large area of tuberculous infection should he removed in order to diminish the amount of tuberculous toxin absorbed by the body and thereby produce a beneficial effect on other and more remote foci of the disease.

Twenty five years ago conservative treatment of hip tuberculosis was favored but today the tendency is toward more radical treatment and some sur geons are doing arthrodesis in practically all cases It remains to be determined whether abolition of movement in the hip joint will cure tuberculous

disease of the pelvis

Puch has observed that the disease commonly begins in the inner portion of the ilium, immediately above the acetabulum and apreads from there to the head of the femur and the hip joint through the ligamentum teres. Although the symptoms of joint disease dominate the clinical picture the primary disease is in the pelvis. Modern extra-articular fusion operations do nothing to remove the disease in the acetabulum

Tuberculous destruction of bone results in the formation of a cavity filled by soft tuberculous material, and apontaneous cure results only when the cavity is collapsed, the soft material is squeezed out and solid bone comes into contact with solid bone. This is well demonstrated in spinal carres, in which complete and permanent healing results when a solid deformity has occurred. Anything which prevents obliteration of the cavity leads to the production of a chronic tuberculous cavity and although this may be encapsulated and quiescent for years it

remains a constant menace to health.

Thirty years are Lorenz maintained that ankylous with sound healing was the best result obtainable in tuberculosis of the hip. His treatment consisted essentially in allowing weight bearing with an immobilizing plaster spica. He treated abscesses by aspiration and deformities by subtrochanteric osteotomy. His weight-bearing treatment tended to force the head of the femur into the acetabulum and obliterate the cavity formed by the destruction of bone. Theoretically an extra articular arthrodexis done before the cavity is obliterated would tend to prevent healing provided the fusion is firm enough to prevent ascent of the femur. In practice how ever operation is usually done late after cavity obliteration has already occurred and after the operation weight bearing is allowed before the artificial fusion is strong enough to prevent ascent of the femur Bankart therefore asks whether extra capsular arthrodesis for tuberculosis of the hip is not essentially the same treatment as that advocated by Lorenz thirty years ago

Bankart does not believe that an ankylosed hip is the best result to be boped for He reports me cases in which the dominant feature was pelvic disease, quiescent but uncured for years, and suggests that this is the common, if not the usual result of conservative treatment. In all of these cases the tuber culous acctabulum and upper end of the femore were caused, the end of the finoral shaft was implanted on the cut surface of the ilium, a plaster spice and applied, and weight bearing was allowed after from five the surface of the ilium, a plaster spice was perfect, and weight bearing was allowed after from five the surface of the ilium, a plaster spice was exceeding infection. All of the patients have stable hips, and all except one who later developed a drusand complete ankyloid, have some useful motion.

In conclusion Bankari suggests that early exclusion of the forus in the fillma may be considered a rational method of treatment since, according to his or perience, it may result in earlier cure with preservation of some useful motion. As the operation is a severe one, a blood translation at the same time is secretical. Bankart reports two deaths, both those of children. One was due to hemorrhage and the other to pulmonary embolism. CERRITA C GOT M D

Odasso, A.: Astrogalectomy Indications and Results Indicatione ed earli dell' astrogalectomic; Arch and 4 km, 933, xxxiii, 507

Following a detailed discussion of the anatomy and function of the astragalus, the mechanics of normal gait, the form and functional possibilities of the foot after astragalectomy, the indications for the operation, the operative technique, and the after care, the author gives the histories of twelve cases followed for periods up to eight years after operation. In seven of these cases the operation was done for tuberculoris in one case each, for fracture and dislocation of the astragalus in two cases, for de formities following poliomyelitis and in one case for painful flat foot. All the results may be regarded as excellent if the senonmens of the condition is taken into consideration. The foot was only slightly deformed and retained well its functions in standing and walking

Odasso concludes that astragalectomy is most clearly indicated in the following conditions

cienty monates in the fotoward constructed in case of fracture because, even in the action of diplote ment, fractures involved to the strength of the construction in the strength of the construction from the construction

Dislocation which is irreducible, habitual, or accompanied by wounds or fracture. 3 Osteomyelits of the astragalus or purulent arthritis of the tarsus.

A Toberculosis of the astraptics or tiblotareal tuberculosis in persons over twenty years of age if expectant methods prove ineffective. With regard to the cases of children and adolescents, the advastibility of operation is still under discussion. Even in the young, there are forms of home tuberculosis which are curable by medical treatment above. When, in children over six years of age, supportation is persistent and the process is progressive, astraptication of the operation will be realized only if it is performed only while the leation is limited to an orticition of the stragglass or a difformatal outer-arthritis. The stragglass or a difformation results are in general content of these observations are altered and results are in general contents of the contents of th

as feed to the construction may operate from the compared of the construction of the c

in paralysis of the foot following polomyelitis, astragalectons is indicated only exceptionally but in certain cases, when combined with hithousard fration, it may correct severe and otherwise irreducible deformaties in general, however certra articular operations (tenodesis and arthrodesis) are the procedures of choice.

Patient and methodical after-care is of the utmost importance to prevent deviations of the foot and obtain as far as possible a satisfactory nearthrosis and definite success in every case.

The author includes in his article numerous rentgenograms and photographs showing his results, discusses the recent literature (particularly the Italian and French) and appends an extensive bibliography Mary Ernaxara Mosex, M.D.

FRACTURES AND DISLOCATIONS

Gord, F. B. The Treatment of Compound Fractures. A Specific Technique for the Prevention and Control of Ostsomyelitis. J. Bees & Just Saft, 1011, 37 417.

For the treatment of severe compound fractures with extensive lacerations and contamination of the suc, a specific technique is recommended by the author. The cusential features of this technique are

Immediate operation and reduction of the fracture secondum estem
 Conservative excision and radical incision of

tissues.

3 Proper "bipping" of the wound following dehydration.

4. Obliteration of dead spaces and the prevention of adhesion of opposing wound surfaces by means of

firm packing with relatively large paraffin-soaked, bipped packs.

5 All possible avoidance of ligatures and sutures.
6 The application of plaster of Paris over a thin layer of padding without the cutting of a window

7 Infrequent dressings the first about eighteen days after the injury done in the operating room under amesthema, secondary suture and packing

8 As soon as union begins the application of an unpadded plaster and felt heel.

H. EARLE CONWELL, M.D.

Stewart, W. J.: Aseptic Necrosis of the Head of the Femur Following Traumatic Dislocation of the Hip Joint Case Report and Experimental Studies. J. Bens & Joint Surg. 1933 xv. 413

A healthy twenty two-year-old man suffered a simple traumatic dialocation of the hip. The dislocation was reduced within a few hours and a plaster space cast applied for six weeks. The dislocation and its satisfactory reduction were shown by roentgenograms. The roentgenograms revealed no abnormality of the femoral head. Walking was permitted on removal of the cast but after five months the pain and stiffness began to increase. Nine and a half months after the dislocation roent genograms revealed beginning disappearance of the cartilage space and flattening of the head of the femur. The bone changes increased and one year after the accident led to a diagnosis of aseptic necrods of the head of the femur with osnification of the capsule and destructive traumatic arthritis of the acetabulum. The patient was placed in a cast for two months and at the end of that time was treated by traction for two hours daily for three weeks. Walking with crutches was then permitted When the last roentgen ray examination was made, about seventeen months after the beginning of treat ment, the head of the femur was seen to be becoming rounder, smoother, and denser

The necrois was thought to be due to a disturbance in the circulation through the vessels of the ligamentum terms or those of the capsule or both in an attempt to reproduce the lesion in animals axx series of experiments were carned out on young and adult rabbits were carned out on young and adult rabbits and adult dogs. Two series of experiments were made on each group. In the first group the ligaments and the periosteum of the neck of the femur were both divided. The animals were then killed and the femora examined with the reentgen rays and extremed after intervals of from forty, sive to one hundred and twenty days.

In some of the experiments part of the femoral heads deed, but there was no regularity in the changes and in no case was collapse of the head produced. Apparently there was a sufficient blood supply in the neck to prevent necrois of the head. The ligamentum teres showed a distinct tendency to reunite Changes similar to those of Legg Calvé Perthes discase were not produced in the younger animals with open explaysal lines.

The author believes that the case he reports in this article is the only one on record in which aseptic necrosis of the femoral head followed traumatic dislocation. He states that the arthritis was secondary to the necrosis and that weight-bearing should be avoided when roentgenograms reveal aseptic necrosis and breaking down of the head, whatever the cause.

CRESTE, C. GOY M.D.

Basset, A.: Lats Partial Absorption of the Head of the Femur After Screw Fixation Without Arthrotomy for Fracture of the Neck of the Femur (Résoption partielle tardive de la tête du fémur après vissage sans arthrotomie pour fracture transcervicale du col) Res d'esthey 1938 xxxix 580

A woman of nxty two years was operated on the days after fracture of the neck of the femur Reduction was accomplished and a beef bone screw introduced. A good anatomical and functional result was obtained. Three years later following an attack of angins with fever pain radiating down the high began in the hip and groin. Three were no objective clinical findings but roentgen ray examins tion showed partial absorption of the bone screw flattening of the upper weight-bearing surface of the head of the femur, an irregular outline above and an tenor and decaldification around the bone screw

In a review of the literature the author found the reports of a few similar cases. In one case the hip was opened up two years after the fracture, a free sequestrum and narrowing of the cartilage were found and the condition was diagnosed as osteochondritis dissecans. In another case pain and de formity of the head of the femur began two years after an operation in which bone pegging was done for fracture of the neck of the femur. The upper sur face of the head of the femur was shown by roentgen examination to be separated from the main part On its removal by operation it was found to be ne crotic and to consist of cartilage and hone. This condition occurs in cases which have had bony union and a return of weight bearing function, usually cases with internal fixation by means of a bone screw or peg. Most observers are agreed that the process is one of necrosis. As it is possible that the necrosis results from impairment of the circulation of the head of the femur care should be taken not to introduce the bone per or screw beyond the center of the head lest it cause destruction of arteries

The treatment should consist of immobilization, Weight bearing should be prohibited. The disease seems to be self limited. Its symptoms cesse with rest but the deformity in the head of the bone of course persists WILLIAM APRIVA CLASK, M D

Mano, N.D. The Treatment of Fractures of the Leg by New Methods (II trattamento delle fratture di gamba con nuovi metodi) Chir di ergoni di merimento 1932 xvil 413

The author reviews briefly some of the recent modifications in the treatment of fractures of the Pinelli L.; A Clinical Contribution to the Study of the So-Called "Spontaneous" or "Effort" Thrombophishitis (Contribute clinica allo studio della trombo-fishite detta "spontanes o da stor

della trombo-fieblte detta "spontanea o da sfor so) Cli d'arge : di mermente 033 xvii 537 The author reports a case of spontaneous or effort thrombomble bitis in a man of forty six years.

effort thrombophlebitis in a man of forty six years who was a bell ringer. One day after ringing the bells, the patient experienced saidlen pain and a feeling of heaviness in his right arm which was accompanied by cedema and cyanosis. His general

health was and remained excellent

The reports of thirty-five similar cases collected from the literature are abstracted by the subset of the property of the subset of the literature are abstracted by the subset of the literature are abstracted by the subset of the literature are abstracted by the subset of the literature are abstracted by the literature are abstracted by mostle contraction. He states that the small velocity of the literature are as a subset of the literature are also as a literature are also as the literature are also

1 The thrombi are more frequent in the arms

2 They are more common in the right than in

the left arm
3 They generally occur in young and robust nersons.

persons.

4. Unlike infectious thrombi they rarely cause emboli.

Pinell's patient had a supernumerary rib on both sides. The rib on the right side was more developed than the rib on the left side. Pinelli believes that pressure from the supernumerary rib may have been a factor in the pathogenesis of the thromborhichitis.

In the treatment, immobilization and elevation of the limb are generally sufficient. Good results have been obtained also from thermotherapy compression by clastic bandages, electrotherapy and ultraviolet radiation. Armary Goss Monaus M.D.

Grisco F: Clinical and Histological Notes on Two Cases of Buerger a Syndrome (Note cliniche et austomonistologiche su due casi di sindroma di L Buerger) Arch sul di hir 1933 xvelii, 289.

The author reports two cases presenting Buerger's syndrome in which conservative treatment such as stretching of the perves and perfecterial symnathectomy failed to effect a cure and a mutilating operation was necessary. Even suprarenal ectomy has not proved as successful in this condition as was honed. The histological findings to the cases reported, both of which were treated by Cantelmoare described in detail. In the first case Cantelmo found that the primary lesion was not a thromboangistis, but an endarteritis, the change in the vessel wall being primary and the thrombouls secondary From this he concluded that Buerger's disease is not a uniform disease, but a syndrome that may present different histological lealons and may be brought about by different causes

Grieco agrees with this concinaion because although the clinical petture was the atme in the two cases be reports, one of the cases showed a primary endarterius and the other a primary thromboanneltis Amery Gone Morenzy Mr.

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Passot, R.: Æakhetic Treatment of Keloids. Sur cical Removal Followed by Immediate Irradia tion (Traitement esthétique des chéloides, ablation chirurgicale suivite d irradiation immédiate) Presse med Par 1033 xli, 544.

Passot emphasizes that successful treatment of keloids depends upon immediate irradiation after surgical removal. In 1922 he recommended the use of radium about a week after operation, but he now strongly advises it immediately after opera-

In the removal of a keloid it must be kept in mind that the subcutaneous involvement is usually much greater in extent than the surface involvement. Great care must be taken to remove every particle of the keloid because the smallest remaining portion will give rise to recurrence. If the defect left is too large for simple suture a graft of fat taken from the thigh may be implanted. In depressed dicatrices fat grafts are very successful. In a keloid scar they have a tendency to produce irritation and thereby favor renewed keloid formation. This tendency can be successfully combated by the im mediate application of radium. The irregular mar gins of the keloid scar should be cut to a simple elliptical pattern. When possible the natural folds of the skin should be followed. Two types of sutures have been recommended the dermo-epidermic and the intradermic. The former is an interrupted suture in which each stitch is placed obliquely from within outward and the needle takes in a greater thickness of cutaneous and subcutaneous tissue be low the surface than at the surface. The intradermic suture is an overcasting statch with free ends at either extremity of the wound. This can be used only in locations where the skin has great resistance. Occasionally Passot employs a double intradermic suture. The dermo-epidermic suture is preferable after the removal of a kelold.

The dressing of the wound is of great importance. To prevent tension on the autures two methods are suggested. In one method the assistant places his fingers on either side of the wound to form a fold by pressure a layer of cellophane is applied over the fold and the margins of the cellophane are scaled with collodion. Traction then affects the cellophane and not the sutures In the other method adhesive tape is placed across the incision, cut in the middle and sutured. Traction is then exerted on the tape sutures and not the wound sutures.

keloids evidently develop between the twelfth and twentieth days after operation, but the prekeload stage may be observed as early as the sixth day Radium irradiation on the sixth day after re moval of the sutures is too late. It should be applied on the same day as the operation if possible even at the same time. According to the size of the incision the author uses one or several tubes of radium. Each tube contains 10 mgm of radium element. The filter is 1 5 mm, of platinum and the distance of the tube from the skin is 1 cm When only one tube is used it is left in place for twenty four hours. When several tubes are employed they are left in place for from fifteen to twenty hours.

Of twenty two cases treated in the manner described a recurrence developed in only one. After a kelord has been removed by operation a preventive dose of radium is sufficient. If radium is used alone to destroy the keloid a disfiguring depigmentation often results as the susceptibility of the patient to irradiation is not easy to determine. Surgical removal of the keloid produces only a regu lar linear scar

Beurmann Noir and Gougerot have recom mended the early postoperative application of small repeated doses of roentgen irradiation in cases of keloid. Passot has obtained good results from large doses of roentgen irradiation given at one sitting shortly after operation and believes this method preferable to the use of small doses. However, after three recent failures he agrees with Cottenot that radium irradiation is superior to roentgen irradia EDITH S MOORE.

Davanzo I : Postoperative Bacterigemia (Sulla batteriemia postoperatoria) Riformo med 1033 XIIx. 435

Investigations have shown that normal persons may develop a transient bacteriemia (entrance into the general circulation of a limited number of bac tens which do not multiply there) without exhibit ing any outward manifestations of illness. The incidence of bacteriemus after operation has been

reported as high as 17 per cent.

Davanto reports a study of ninety five cases. In sixty five, the condition followed an ascotic Inparotomy In seven, it was associated with serious symptoms of sepsis, including a septic temperature and course. The blood was taken at varying inter vals after the operation, generally as soon as possible and always within eight hours. In two of the cases sseptic' laparotomy a staphylococcic bacteri semia was present. One of these was a case of old pelvic cellulitis, and the other a case of apparently cured suppurative salpingitis In the latter the con dition ran a septic course and was fatal

No positive results were obtained in the definitely septic cases. The low morbidity which was much lower than that reported by others is difficult to explain, but possibly may be accounted for by the fact that the specimens were not taken immediately after the operation. It has been shown that the number of positive results diminishes greatly four hours after operation

Morbidity is determined to a marked degree by the site of the operation. The incidence of post operative bacterismis is highest after operations on structures with an abundant vascular and lymphatic supply such as bone and muscle, because in such structures bacteria have the most favorable oppor tunity to enter the blood stream. The peritoneum early forms a wall of fibrin which is an almost insurmountable barrier to the entrance of bacteria into the circulating blood. This is true particularly

in collections of pus in the pelvis. Postoperative bacterisemia has no constant diagnostic or prognostic value, but in certain cases may be a precursory sign of a septic postoperative

course.

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INVECTIONS

JOHN W. KATON M D.

McIver M A.: A Study in Extensive Cutaneous Burns. Ann. Surg 1011 Moil, 670.

This article is based on sixteen cases of extensive cutaneous burns of the body and extremities. In five cases the burns proved fatal.

The study of these cases included erythrocyte and leucocyte counts hematocrit readings determina tions of the sedimentation rate chemical studies of the blood, including the plasma chlorides, non protein nitrogen serum protein, augur carbondioxide combining power, calclum, and phosphates chemical studies of the blister fluid and determina

tions of the intake and output of fluids. The findings, which are summarized in eight tables, showed an increase in the white and red cell counts' an increase in the percentage of red cells in proportion to the plasma, and a decrease in the sedimentation rate of the red cells. The bloodchloride values were essentially normal (in the seriour cases large amounts of normal salt solution were given) Only two cases showed a very striking increase in the non-protein nitrogen of the blood. These were fatal cases, and the increase was most marked in the terminal stage. In some of the cases there was a decrease in the total plasma protein. When the blood sugar was determined soon after the burns occurred it was usually high. The carbon dioxide values were essentially normal early in the condition, but two of the patients later developed a definite ecidosis.

The composition of the blister fluid chosely re-

sembled that of the blood plasma.

The urinary output was low and the excretion of the chlorides diminished. These findings were most marked in the more severe cases.

One of the chief findings in cases of severe burns is marked concentration of the blood. Correction of this abcormality by an adequate fluid intake is frequently unable to relieve all of the ayaptoms or prevent a fatal outcome. Accordingly it seems probable that some other important factor besides concentration of the blood is involved in the tomenia of burns CARL R. STEITER M.D.

Davis, J S. and Kitlowski E A.: The Treatment of Old Unbesled Burns. Ann Suff 1933 2018,

The authors discuss only the problem of the healing of granulating areas and not the relief of scar contractures in borns from months to years old. They report the results of tyestment of three chil dren and three adults. The children were burned by having their clothes catch on fire, and the adults by gasoline or oil explosions. All of the children and one adult were given transfusions.

I arious types of skin grafts are discussed and the details of the treatment are described.

The physical and mental condition of persons with old unbesled burns is usually very poor and must be

improved before skin grafting can be successful The unhealed area should be grafted as soon as the granulations are in suitable condition, and bealing should be induced as quickly as possible. The auth ors have found the small deep graft most satisfac tory as it can be obtained from comparatively small areas some of which could not be used as the source of larger grafts

In cases of old burns subsequent operative work for the release of sour contractures is almost always nocessary During the treatment of burns scar contraction must be combated by the use of suitable traction apparatus in order to reduce permanent deformity to the minimum. The operative relief of scar contractures, which often occur in even the most carefully treated cases, should not be attempted for at least six months after healing is complete, which is about the time required for the scars to become loosened and soft ened by massage and passive motion. CARL R. SHEDRER, M.D.

Mason J B.: An Evaluation of the Tannic Acid Treatment of Burns. Aus Surg 1933 xcvd, 641

Mason reviews two series of cases of burns treated at the Presbyterian Hospital, Philadelphia. The first series consisted of ninety-one cases treated by many methods during the period from Jamuary 1 1912 to November 17 1925 and the second, of ninety-seven cases treated with famile add during the period from November 17 1925 to December 31, 1931

The total mortality in the first series was al.5 per cent, and that in the second series, 13 3 per cent. The mortality of adults was 27.4 per cent in the first series and 17 3 per cent in the second series, and the mortality of children so 5 per cent in the first series and 9 3 per cent in the second. Many of the deaths of adults were due to industrial accidents.

In the first series, 65.4 per cent of the deaths occurred within forty-eight bours, and 34.6 per cent in the period of sepsis, whereas in the second series, 84.6 per cent occurred in the first forty-eight hours and 15.4 per cent during the period of infection.

The morbidity and hospitalization are discussed on the basis of two groups of patients with burns involving no per cent or more of the body surface. The eleven patients in the first group were hospitalized for an average of sixty-one and seventenths days whereas the nineteen patients in the second group, who were treated with tannic acid, were hospitalized for an average of fifty three and a half days. The patients treated with tannic acid therefore remained in the hospital an average of eight and two-tenths days less than those treated by other methods.

Case R. Straux, M.D.

Case R. STRINK, M.D.

Case R. STRINK, M.D.

Raiga, A.: Treatment of Furuncles and Carbuncles of the Face by Bacteriopinge (Traitement des furoncies et anthras de la face par le bactériophage) Ball et mêm Sec d chururgum de Par 1932 xxi. cxi.

Attention is called to the gravity of face infection, especially above the mouth. The danger is due chiefly to the anatomical arrangement of the veins. Raiga reviews 32 cases of furuncles and carbuncles of the face which came under his observation. He defines a furuncle as a circumscribed cutaneous in flammation due most offer to the staphylococcus, which begins in the pilosebaccous apparatus, provoking supporation and alongh of this structure and a part of the surrounding dermis so that it is east off as a yellowish mass. A carbuncle be describes as an inflammator, swelling formed by an agglomeration of furuncles and resting upon a phlegmonous slough.

Of the 352 reviewed cases, the condition was differentiation between diffuse and circumscribed lesions is extremely important for the prognosis.

Of the lesions of the upper lip in the reviewed cases 43 per cent and of those of the lower lip 50 per cent were of the diffuse type. In the other regions the diffuse form was much less common. Raiga believes that the spread of the infection in the lips is due less to the blood vessel arrangement than to the musculature. The infection travels along the muscles and the movements of the muscles favor its spread. The lesions might very well be called acute myositis, and it is probable that the large veins in the muscles rather than the vessels under the skin become infected. In almost all of the cases of diffuse infection there is a history of more or less violent manipulation such as pressing squeezing or pricking with a needle or pin. By any of these manipulations a simple furuncle which is perfectly benign may become transformed into a very deep severe lesion. The prognosis suddenly changes and the patient may be responsible for his The author has seen sudden changes own death. take place from an incision made too early even with the thermocauters

Raiga treated his 352 cases of infection exclusively with bacteriophage. He used a stock phage made by combining several different phages which was

given him by the d Herelle laboratory. He propa gated the bacteriophage on a strain of staphylococcus furnished by Gratia, and it was only very rarely that this phage was incapable of affecting the bacteria found in his cases. He believes that the bacteriophage is a living corpuscie and a filterable virus which produces a fatal disease on the bacteria it attacks. The lysis of bacteria in a test tube requires (1) a susceptible strain of bacteria (2) a virulent bacteriophage, and (3) a medium favorable from the physical and chemical standpoints. In the patient, the problem is somewhat different because of the possibility of an unfavorable environment due particularly to the presence of antiphage in the natient a serum. Therefore tests should siways be made to determine the presence of this antagonistic substance

The action of antiphage may be offset by autohemotherapy. If the serum of the patient presents an antiphage the patient must be given an intra muscular injection of his own blood. It must be remembered that bacteriophage can act only on the organisms causing the infection. It has absolutely no effect on the tissue which has been destroyed. The latter must be removed in the usual way by absorption or liberation at the proper time

Rafga emphasizes that when bacteriophage is used chemotherapy should not be given as it may interfere with the action of the phage Vaccines should be used only if the infecting organism is resistant to the bacteriophage.

Raiga a technique for the use of bacteriophage is as follows

A culture is made from the lesson and tested for susceptibility to the phage and the serum is studied for the presence of antiphage. Phage is injected directly into the lesion. If septicemia is present the phage is injected also intravenously. When the infection is in the bladder it is inoculated in th If the gastro intestinal tract is the site bladder of infection, it is given by mouth. In lesions of the face the injection is made into the lesson through a blunt cannula or needle. No attempt is made to inject the penphery as this is painful, dangerous and unnecessary Subcutaneous injection at a site distant from the lesson is not advisable because an antilytic substance of another sort may develop rendering the patient more susceptible and auto hemotherapy does not affect this kind of antibody However in the presence of a positive blood cultur or a threatened positive blood culture, bacterio phage is always injected intravenously when the lesion is a diffuse carbuncle.

In the 352 reviewed cases of furuncles and carbuncles of the face there were only 3 destits. The fatal cases are reported in some detail. One of them was that of a diabetic woman with a carbuncle in volving the inside and outside of the nose and the upper lip. The patient did not respond to local and intravenous injections or autokumotherapy. The second death was that of a girl fourteen years of age who had a diffuse carbuncle of the upper lip which spread downward toward the neck senticemia en docarditis, and neteromyelitis of the sternum and humerus. The local lesion responded strikingly to the phase but the emicronia could not be controlled. The third death was that of a woman of thirty-two years who had a diffuse process in both the upper and the lower lip. The upper lip where it started, had been incleed through the mucous memhome with the cautery. The infection then socied to the lower lin. The nations was in extremit when she was seen by Raiga, and without any expectation of success he injected phage locally in several places and gave autobemotherapy. The next day there seemed to be definite improvement, but on the secand day the patient died. One of the natients who died had an antiphage in the blood which varied strictly inversely with her general condition. An other had a bacterial strain which even out second arily in the tube culture.

Three hundred and forty nine of the reviewed cases were cured. In these there was either raund cessation of the pain with liberation of the core liquefaction of the slough, or complete resolution without absorption Raiga never saw a furuncle or a localized carbuncle developed into the diffuse form under treatment with phage. Sixty two per cent of all cases were cured in fewer than four days. and So per cent in fewer than seven days. Of the furuncies, So per cent were cured in fewer than four days and or per cent in fewer than seven days. Of the carbuncles, to per cent were cared in fewer than four days and 64 per cent in fewer than seven days. cure Raise means not only steriluzation of the focus, but also complete and final restoration of the normal anatomy

In 140 cases the blood was examined for antiphage.

In one third both antistreptophage and antistaphylophage were found. In another third, one was found without the other and in another third, no

antichage was demonstrable.

Of the cases without antiphage a cure was obtained in 7g per cent in fewer than four days and in 80 per cent were cared in fewer than four days and all were cured in fewer than four days and all were cured in fewer than five days. Of the car buncles, 3g per cent were cured in fewer than four days and 60 per cent in less than a week. In no case did the condition persist over twelve days.

The presence of antiphage reduced these figures considerably Of the whole group of case 44 per cent were cured in four dary and 63 per cent in seven days. Of the furuncies, only 76 per cent were cured in five days, of the carbundes, only 18 per cent were cured in fewer than four day and ap per cent were cured in fewer than four day and ap per cent were cured in fewer than four days and appearance of the contract of the contrac

FRAME L. MELENEY M D.

Palma R.: Experimental Researches on the Pathogenesis of Tetanus Infection (Ricerche sperimentali sulla patogenesi dell'infectione tetraka). Ann itali di chir one ril rec.

Palms reports a case of tetanus in which be isolated the causative organism from an absects of bernatogenous origin and cites cases reported in the literature in which the badillus tetanus was found in parts of the body remote from the original infection or even in the absence of an obvious primary infection.

In experiments carried out to determine the factors favoring localization of the tetama hariflan in tissues distant from the site of its entry into the body he was able to bring about localization of the organism out of the blood by producing a chemical abscess in the tissues. Late injection of the chemical irritant after the organisms were no looger in the blood stream but in the tissues failed to case localization. Palms concludes that there are anatomical leasons which are capable of failing tetamos badilli circulating in the blood stream, but incapable of drawing them out of the tissues where they are latent.

Dreyer G. and Campbell Renton, M. L.: The Oranitative Determination of Bacteriophage Activity and its Application to the Study of the Twort-differelle Phenomenon. J. Palk. b. Bacterial, pat. 1879, 1999.

The authors point out that quantitative deer minations of bacterophage have generally fallen into three groups (1) the counting of plaque formed when a mixture of bacteriophage and assexptible bacteria are plated on sgar (3) the determination of the dilution of a bacteriophage producing complete Ivas of a given quantity of bacteria and (3) the determination of the opacity of a bacteria-bacteriophage mixture of known

quantities after a given period of contact.

A new method combining Methods 1 and 2 is described. In this procedure a thin layer of agat is spread on a large plate and covered with a field oil ture of bacteria. The excess is poured off and the plates dried for one hour at 37 degrees C. The bacteriophage is carried through a series of dilutions and a drop from each diffiction is deposited on the plate by means of a standardized platinum loop. The plates a then incubated and at certain intervals of time a photograph is taken of the plate and carried control and the critical central states of the computation, the activities of the plate and the critical control and the critical central states of the plate and carried control and the critical control and control central states of the plate and control central states of the plate and control central states of the plate and control central states of the plate and central states of the plates and central states of the plates and central states of the plates and ce

With the use of this technique in the study of a white staphylococcus and a potent phage the authors made the following observations

r Plaques began to appear after three hours of incubation.

2 Plaques increased in number up to seven hours. On further incubation, they increased in size but not in number 3 Wesk dilutions of bacteriophage atimulated the growth of the organisms in the early stages of incubation while stronger concentrations did not

4. With a given series of dilutions of bacter lophage, the number of plaques did not increase in direct proportion to the increase in the concentration of the phage, as has been stated by previous observers but followed a constant curve. When a small number of plaques was concerned, i.e. in the higher dilutions, the curve approximated a straight line, but as the number of plaques increased, the line tended to deviate more and more. In the higher concentrations, a relatively smaller number of plaques was produced. From a large series of observations, a curve could be produced to represent a standard of bacteriophage potency.

5 With a given dilution of bacteriophage, the number of plaques increased with the density of the

bacterial inoculum on the agar plate.

6 The concentration of agar affected also the number of plaques to a marked degree. A much greater number of plaques developed on 1 5 per cent agar than on 4 per cent agar and the plaques were larger on the less dense medium.

7 The admixture of homologous dead bacteria in the inoculum resulted in the production of a smaller

number of plaques

8 Bacteriophage kept at 37 degrees C for twenty four bours was less potent than the original phage kept at room temperature. 9 The shape of the curve was essentially the

same throughout all of these experiments

FRANK L. MELENEY M D.

ARESTHESIA

Wolfesen J M Avertin Ansesthesia (Avertinnarkose) Hasp Tid., 1932 p 1520 1375

The high hopes which were held for avertin anasthesia particularly with respect to its safety have been fulfilled only partially. In order to produce complete anasthesia such large quantities of avertin must be given that they may become dangerous. However if the correct technique and dosage are used the anasthesia may be regarded as generally safe. When it is induced properly intestinat disturbances such as coluin which were reported.

formerly can be prevented

The depth and rate of respiration are first decreased Gradually however the respiration improvers. In order to avoid a combined morphine and avertin effect on the respiration the morphine should be given as hour before the avertin. To refleve this complication many substances have been tried. Occasionally lobelin and occasine have a favorable effect. Magnesium sulphate has no effect. The interference with respiration can be overcome better by carbon-double inhalation. Avertin has the same effect on the acid base equilibrium as chloroform it diminishes the respiration for from twenty, four to forty-eight hours without causing excessive respiration later. Even in complete avertin anarshesia the

addition of ether diminishes the period of reduced respiration to about eight hours and in addition opposes the paralysis of the respiratory center. The most effective agent against the respiratory paralysis is coramin which converts the complete anaesthesia into a basal anaesthesia.

Injurious effects on the liver have not been observed after the use of avertun. In cases of diabetes care must be taken in using avertin as it has a tend ency to aggravate the condition. Frequently there is a fall in the blood pressure. Avertin is excreted by the kidneys with glycuronic and. The excretion begins simultaneously with absorption so that an equilibrium is established. If the equilibrium is daturbed in any way by retention of the avertin, signs of advantage in head surgery as the field of operation is undistribed. Since avertin is given before the operation an anesthetist is unnecessary. The anesthesia fasts for about two hours.

The author believes that, in spite of its defects avertin anesthesia possesses such great advantages over other types of aneathesia that it must be regarded as representing an epoch making advance.

HAAGEN (Z)

Salid L Glinical Research on the Behavior of the Arneth Index and the Hisemogram of Schilling After Surgical Operations Performed Under General Amanthesia (Ricerthe clinicians of comportamento del quadro di Arneth e dell'emogramma di Schilling dopo interventi operatori in narcosi tardicinica. Ass. als di schr. 2033, 31 300

Salici studied the changes in the neutrophile leucocytes following surged operations performed under general ansashesia. He noted that immediate h after the operation there was a shift to the left of the Ameth index with an increase in the number of neutrophilic leucocytes of the first class and a decrease of the cells of the third and fourth classes. However this shift was not accompanied by the appearance of immature white blood cells.

In the same cases the Schilling index or hemogram aboved an increase in the number of neutrophile leucocytes with a club-shaped nucleus and a corre sponding decrease in the number of cells with a segmented nucleus. These changes may be classified

as simple hyporegenerative displacement.

No direct relationship between the changes and the dose of the anasthetic, the duration of the anasthema or the severity of the surgical procedure was apparent. The changes in the leucocytes per sisted for about three days and were followed by a gradual return to normal Priza A. Ross, M.D.

Picardi, G.: Piantar Ulcers Following Spinal Ansesthesia Lumbar Ganglionectomy; Car-(Ulcerazione piantare consecutiva a rachianestesia gangliectomia lombare guarigione) Policia Rome, 1933 xl, sex. chir 237

The case reported was that of a girl nineteen vears of age who was subjected to appendectomy October 14, 1011, under spinal angatheda indoced with tutocaine. The pre-operative history was negative. The nostoperative course was uneventful until October 18, when several serous blisters developed at the base of each heel. The blisters were accompanied by pain and a sense of best and tension. They were about the size of a silver dime, irregularly circular, tender and circumscribed by a narrow red rone. Puncture of the blisters on October as vielded a Jemon vellow fluid. Soon the blisters increased in size and the semm they contained became more hemorrhagic. On November s the nations inadvertently removed the covering of the bulls exposing shallow ploers with a somewhat hemorrhadic base which later tended to dry and become crusted. While the natient remained in hed the ulcers became somewhat smaller and were not nainful. However they did not heal completely When the nationt became ambulatory the pain recorred because of the pressure and the frement dislockment of the crusts. The ulcers were still present when the national left the hospital.

On October 11 1012 one year after the amoendectomy the national returned to the hospital because of a persistent ulcer on the right heel which measured about 11/2 in, in diameter The base of the lesion was gravial-red and exuded a small amount of serum. Passing radially from the base were fibrons scars indicating the original size of the lerion. The old ploet on the left heel was healed with some forms tion. Examination revealed erythems from pain and a negative pilomotor reaction. The injection of of the trunk as far as the enleastrium. Temperature studies of the lower extremities after the injection of a foreign protein (mixoren) indicated vascular insufficiency Oselllometry of the lower extremities yielded normal readings

Careful consideration of the clinical picture and the physical findings led to the diagnosis of anglemean associated with trophic enteneous disturbances On October 26 a right lumbar ganglion-ectomy was performed. The right foot then became warmer than the left, and within a short time the ulcer healed.

The cause of such complications after minal anesthesia has not been definitely determined. Pleardi suggests that it may be a toyle action of the angesthetic on the posterior roots, variations in the tension of the fluid after the injection, or an asertic meningitis produced by the anestbetic.

A Lores Rose, M.D.

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Desjardins, A. U: The Radiosensitiveness of Tumors Derived from Cartilage Am J Concer 1933 xviii, 15

From the therapeutic point of view sollitary endothetioma is by far the most radiosensitive of all malignant tumors of bone. Its rapid rate of regression under the influence of the reentgen rays and radium is of great aid in its differential diagnosis. It can often be made to regress completely and in some cases adequate treatment produces permanent cure

True cateogenic sarcoma, so-called usually shows such allight senartiveness to irradiation that it may be designated as radioresistant. Occasionally it may regress alightly and slowly after exposure to the roent gen rays or radium, but anything approaching complete retrogression even of temporary duration or great improvement in the patient's condition is very rare and authentic instances of complete and defi

nite cure are practically unknown.

Bone tumors derived from cartilage are intermediate between the solitary endothehoum and the osteogenic sarrowns in their sensitiveness to the roentgen rays and radium but the difference between chondrosarrowns and endothelioms is greater than the difference between chondrosarrowns and coteogenic sarrowns. By sufficiently intense irraduation bone tumors derived from cartilage can be made to retrogress perceptibly and sometimes to a considerable degree for a limited period of time but their complete and permanent disappearance is rare. However the retrogression which occurs usually proceeds at a more rapid rate, and is more pronounced, and lasts somewhat longer than that occur ring in osteogenic sarrows.

In most cases the difference in radiosensativeness displayed by these three types of neoplasm is sufficient to distinguish them clearly irrespective of the findings of clinical, roentgenological or pathological

examination

Desjardins has had occasion to observe a case which seemed to throw light on the diagnostic value of the so-called onion-skin effect in reonigenograms of bone tumors and on the value of radiotherapy as a means of distinguishing solitary endothelioms of bone from other neoplasms arising in osseous tissue.

Simple, benign chondroms affecting bone has never been regarded as sensitive to the recent gen rays or radium. While there is reason to believe that the majority of supers being the processes are not perceptibly in fluenced by irrediation, it appears that exposure to the roentgen rays or radium may cause certain growths to undergo distinct although limited changes. The author reports a case in which the rate at which the pain subsided and the tumor distinct although the region of the process of t

minished in size corresponded to the rate noted in cases of chondrosarcoma treated by irradiation

Lowe, E. C.: The Value of Serum Reactions in Radiotherapy of Cancer Brit J Radiol., 1933 vi. 207

The author dies articles published by Webster Adair and Russ in 193. Webster discussing X ray and radium treatment of cancer of the breast, suggested that improved clinical results might be obscured by combining irradiation with operation in selected cases. Adar compared the results of treating mammary cancer by operation irradiation and a combination of both and found that the combined treatment was most successful. Russ discussed the theories regarding direct and indirect action on malignant growth and suggested that irradiation produces an indirect action which causes a response from the physiological functions of the body

By employing a quantitative modification of the Bendien serum reaction it has been possible, in a considerable number of cases of cancer to record variations in the serum. Forms of cancer which develop as a result of injury to differentiated cells are characterised by biophysical, blochemical and metabolic changes termed by Bell cell differentia

tion and by Shaw cell conversion

As compared with normal cells, cancer cells show an abnormal lecithin-cholesterol ratio an increased proportion of hydrophille protein colloid, a greater water content and greater permeability. These findings do not explain why the majority of persons do not develop cancer. The author believes it logical to ascribe immunity to the presence of a normal defense mechanism capable of destroying cancer cells as soon as they develop. The bases for the assumption of the existence of such a defense are as follows.

I Bell suggests that there is a defensive process in alero which prevents the invasion by normal chorion epithelium. If Bell's theory is correct it would be strange if this function ceased at birth

2 Such a defense may be a process of evolution-

ary development.

3 If the characteristic rapid division of cancer-cells is due to the abnormal contents of those cells, the same factors would expose cancer cells to easy destruction if there were no substance present in the blood to prevent it

4. Observations have shown that normal blood is endowed with a lipolytic power. In the blood of persons with cancer this power is very deficient, but recovers partially or completely following removal of the malignancy.

Lowe presents an ingenious diagram to show some of the findings in the enormous field of cancer research in relation to blood serums which result from or accompany the radium therapy of malignant growths or other forms of treatment causing destruction of cancer cells.

Following damage to differentiated tissue the cells may be killed or may recover and continue their normal existence, or they may remain in a more or less injured state or may enter a pathological process and develop into cancer cells

hs a working hypothesis, the author suggests that the general mass of normal tissues produces a defensive substance, possibly enzymic in character which is capable of destroying cancer cells at once, and that cancer develops only when this tissue de-

femse is deficient.
Numerous observations have demonstrated several changes in the blood serum in association with cancer. These are responsible for an absormal colloidate service and the service of t

available
Experimental work suggests that when cancer ceils are destroyed in als and autolysis is produced, a degree of immunity response may occur possibly through attimulation of the reticulo-endothelial system. According to Casport, this is the effect produced in animals by V-ray radium and lead treatment. Other ascribe the response to the action of a specific serum. According to a third group it is the result of growth regression. All of these theories tend to confirm Bendlen's choical findings and support the theory that immunity responses are initiated in the general normal tursues as the result of the theories that the confirming the support that there of the confirming the support that there is the confirming the support that there is the support that there is the support that there is the support that there is the support that there is the support that there is the support that there is the support that there is the support that there is the support that the support that the support that the support that there is the support that the s

Pre-operative irradiation of cancer finds support in such experimental observations. In a series of cases of known malignancy of the uterus which were treated at the Radium Institute and Royal Infirmary at Livernool combined radium and \ rav follow up observations on the serum reaction were made by Gemmell and Malpas. The variations found are shown in a graphs. Graph is typical of cases of local destruction of the growth and its disappearance which were associated with remark able changes in the blood reactions. In these cases the blood reactions were normal ten months later and there was no sign of recurrence after sixteen months. Graph a is typical of the serum reaction which remains positive in spite of satisfactory local and general clinical response and makes it possible to predict recurrence as early as five months before its appearance. Graphs 3 and 4 show respec tively a satisfactory outcome and a late recurrence. In the latter case recurrence had been foretold by

the scrum reaction nine months before its clinical appearance. The diagram and text explain the hypothesis relative to the serum changes which may be connected with the indirect effect of methods of treatment and the destruction of cancer cells in side. The findings indicate that the regaining of immunity as the result of treatment after the development of cancer due to a breakdown of normal tissue de fense does not preclude a subsequent similar break down Fluctuations in serum reactions from posttive to negative and vice versa suggest that an attempt to regain normal defense may be successful only temporarily Recognition of such varia tions may be of aid in the decision as to whether treatment should be repeated or omitted. quantitative serum reaction might be of value in follow-up examinations for recurrence before it is evident clinically

Experience in the follow-up observations in over too cases suggests that this aphase resction will give evidence of progress under any form of treat ment earlier than any other known method. As is successfully treated cases the serum gradually becomes normal, failure to obtain a normal serum reaction indicates that the malignancy has not been eadicated and that recoursece or meetatais will probably follow. A change to abnormal in a subsequent serum reaction will indicate an impending recurrence a progressively more positive malignant reaction will forested a fait result and a positive malignant reaction which continues in spite of treat ment indicates that only pullisation can be expected.

L Junes Luxre, M D

RADIUM

Reinhard M. C.: An Analysis of the Factors Entering into Radiom Pack Intensities. is J. Ce. et 933 r/h 36

This article is intended to applement a pervices publication which dealt with the relation between a single tube of radium mounted on various this nesses of wax and several tubes arranged according to other achienes for distances as great as 6 cm. and for as many as fourteen tubes. Since application are often mounted in air and in protected packs as well as in wax, the transpoung of dosage from one type of pack to another requires further study.

Institution methods of measuring lotensity were employed throughout. The special apparatus for measuring was assembled in such as we that it was spacing air spacing, air spacing with wells of brasspacing air spacing, air spacing with wells of brasbacked with lead or with lead walls alone were studied. The madating source was adjustable so that it could be distributed over any area measuring. 8 by 8 cm. or less. The radium was in the form of tubes of 90 and 100 mgm with an outside dameter of 4 mm and a wall of 1 mm. of plattnom. The tubes were mounted on a backlet tray 1 mm. tibet.

With the use of the war spacers at a distance of 6 cm. from the center of the radium to the center of the ionization chamber measurements were made of three distributions of the radium (3) four tubes ad acent (2) four tubes parallel but 2 cm. spart and (3) the entire tray filled with tubes arranged to give uniform intensity. The result indicated an intensity decrease according to the increasing area of radia tom at the rate of 32 30 and 21 r per minute per gram respectively. On removal of the wax an in creased intensity was observed. As this was too great to be explained by wax absorption slone, it was sacribed to additional radiation presumably soft with was removed by wax.

To determine the source of this radiation copper filters varying from 1/4 to 1 mm in thickness were placed in one of two positions (1) immediately be low the radium and (2) immediately above the ionization chamber From the results of these measprements the conclusion was drawn that the soft component in the beam was not due to madequate secondary filtration at the source since the copper filter near the ionization chamber removed these soft rays. As the 1 o mm. copper filter immediately over the ionization chamber gave ample filtration measurements were made with the use of this filtra tion for the three arrangements of radium tubes as previously described. These values agreed with the intensities for wax spacing at the same distance and showed that for small areas of radiation the dosage factor is the same for wax spacers and for air space ing provided adequate secondary filtration in the correct position is employed in the latter case With the large areas of irradiation the intensity of the wax pack is slightly less than with the air pack.

The influence of the walls on the intensity and character of the rays was next determined. The beam of rays was confined within walls of brass backed with lead or of lead alone. The field size was to by to cm. With the use of large areas of radia tion, 8 by 8 cm. at a distance of 6 to, and r.5 cm. the intensity increased progressively from air walls to brass walls to lead walls. At a distance of 6 cm, the figure was too per cent for air rife per cent for brass and risk per cent for lead walls. Therefore for an unfiltered beam an increased wall area produces a corresponding increase in intensity. This increase may be a tuributed to secondary radiation from the walls.

To determine the quality of this secondary radiation copper filters varying in thickness from ½ to 2 mm were inserted between the pack and the ionization chamber. Curves of the results are shown. At least 0.5 mm, of copper is necessary to remove these secondary radiations. The absolute values indicate that the intensities for the three types of packs are approximately the same and independent of the wall material when sufficient filtration is used. Within the limits of the experiment the secondary radiation varied only in quantity depending upon the different wall material and not in quality.

The field size or radiated area being maintained by means of lead walls, the effect of changing the distribution of the radium was next studied. It was

concluded that limitation of the beam by the walls had no effect on the intensity

In conclusion the author states that for the same distribution of radium the intensity of the radium pack is independent of the method of support or mounting whether it be wax air or well protected packs provided adequate means are employed to remove the soft components of the beam which are characteristic of the arrangement used. When radium is employed with air spacing the secondary lifter should be against the skin. In metallic packs it should be outside the aperture opening. The intensity of the pack is independent of the field size and dependent upon the distribution of the radiating points.

A. Jakus Lakus M. D.

Kelly E. Radium Therapy in Carcinoma of the Lip J Am M Air 1933 c 388

The author presents a study of 335 cases of carci noma of the lip which were treated in the period from 1913 to 1931 Cases treated during the vears from 1921 to 1920 are selected as representative of the success of radium irradiation Cases treated previous to 1921 have been excluded because (1) nearly all cases referred to the hospital at that time had been rejected by surgeons and (2) the dosage of radium was still in the experimental stage Only lesions diagnosed as carcinoma by an expert are included. Wassermann tests but not biopsies were done routinely. Ninety-six per cent of the lesions were on the lower lip \inet\ five per cent of the patients were men, 86 per cent were smokers and 70 per cent were outdoor workers. The average age was fifty-six and eight tenths vears.

The 252 cases analyzed are divided into the following 4 groups

Group 1 cases of lesions not involving more than one half of the lip and with no palpable glands. Group 2 cases of lesions involving more than half

of the lip and with no palpable glands
Group 3 cases of lesions with definitely palpable glands.

Group 4 cases in which radium and surgers were combined or treatment had been given previously elsewhere.

This report deals chiefly with cases of Group 1 which should be curable by any type of therapy Patients untraced in January 1932 are excluded and untraced patients with a recurrent growth or lingering symptoms when they were last seen are classed as dead of carcinoma. Accordingly there re main for analysis 137 cases which were treated more than two years ago Ninety-seven (, o 8 per cent) of the patients were well in January 1932 128 (03.4 per cent) were well two years or longer after treat ment 67 (818 per cent) were well five years after treatment and 8 (61 5 per cent) of 13 were well more than ten years after treatment. In general, a patient in Group 1 who remains well for two years may be regarded as cured. Since the average age of in cidence of carcinoms of the lip is over fifty-six years it is difficult to carry statistics beyond five years after treatment because of the high mortality due to

Of the 13 patients of Group 2 33 3 per cent were well two or more years after treatment, and 25 per cent were well five or more years after treatment. Failure in cases of Group 2 is due chiefly to the fact that glandular metastases frequently become pall nable none after the netter it is first serve.

Of the 36 patients in Group 3 a were well four years after treatment. In the majority of cases in this group radium irradiation healed the primary lesion and retarded metastasis for months. Attention is called to the fact that metastasis from cardnoms of the lip occurs late since, of soo patients, 10s (32 per cent) had no palpable slands when they were

first examined.

Of the 164 patients in Groups 1 and 2 93 per canthal at application of radious. Routine treatment was given with radon bulbs containing from 400 to 750 me. each filtered by 1 5 mm. of brast and 6 mm. of felt. The drougs varied from 20 me. hrs. in the largest lexico. The average dose was from 500 to 750 mc.-brs. in 12 application. Healing occurred in from at to ten weeks. Daily removal of the scale by the patient and painting with 5 per cent mercunchouse were recommended to prevent secondary infection. In nearty all cases the lin beside perfectly without these things the scale of the scale of the scale of the scale of the scale of the patient of the scale of the patient of the scale of the scale by the patient mercunchouse were recommended to prevent secondary infection. In

alightest soar within four months. Even in cases with wide-oppend destruction of tissue there was a remarkable tendency toward normal contour with no contractures. In 6 cases, treatment by the implantation of gold needles or a combination of needles and bails was given on account of deep infiltration. High-voltage X-ray invadiation was given to the giands of the neck on both iddes, view when

they were not pulpable.

On the bases of a study of 13y cases in Group r the author recommends treatment with radium in preference to surgery for the following reasons:

The end-results are excellent—a two-vear cure

in gr per cent of the cases and a five year cure in 81 per cent.

2 The connectic and functional results are better 3 Time and expense are saved to the patient and the housital.

4. The patient can usually carry on his occupa-

For cases in Group s the author advises the application of radium to the primary lesion and radical resection of the slands of the neck.

For cases of Group 3 he recommends irradiation of the primary lexion and surgery of the glands except in the presence of glandular furnition, when radiom therapy gives marked onlination.

A. JANES LARKER MAD

MISCELLANEOUS

CLINICAL ENTITIES-GENERAL PHYSIO-LOGICAL CONDITIONS

Vienkins, J. C.: Cyanouls. International Clinics 1033 II, 67

Cyanods is due to an excessive amount of reduced hemoglobin in the capillaries of the vaille tissues Carbon diorade is not an important factor in its production. As the organism can accommodate it self to any shonomality when it is given sufficient time, cyanosis is more serious when it develops acutely than when it develops more gradually

An excessive quantity of reduced hiemoglobin is due chiefly to interference with normal covygenation in the pulmonary capillaries and circulatory disturbances which, although associated with impair ment of pulmonary function, depend on pollution of atrated blood with venous blood as in hearts with incomplete septa, and the rate of blood flow through the peripheral circulation. The inhalation of pure oxygen will cause disappearance of the cyanosis if it is due to a respiratory cause, but will only decrease it if it is due to a frequentry cause.

Local causes of cyanosis are local trauma with extravasation of blood into the tissue spaces and venous obstruction such as is produced by throm

bosis or external pressure. Acute larynges and traches obstructions cause a sudden diminution of pulmonary ventilation with severe cyanosis leading to shock. After the occurrence of shock the deep color of the cyanosis disappears. To prevent circulatory collapse, oxygen must be administered by mechanical means or the obstruction must be relieved immediately. In cases of chronic obstruction cyanosis develops gradually without shock or circulatory collapse because of the compensation established by the organism to the new conditions. Bronchitis (chiefly in infants) bronchial asthma, and pneumonia cause interference with pulmonary alveolar ventilation with a consequent reduction of the percentage of hamoglobin in the arterial stream and the development of cyanosis of a serious nature. Also in these conditions there is an increase in the carbon dloxide content of the blood which causes a dilatation of the capil laries and accentuates the cyanosis by slowing the blood flow and allowing the tissues to absorb more oxygen.

In chronic pulmonary disease including emphy sems deep cyanosis with little duriness develops be cause of hirosis of the pulmonary interstitial fissues with defective gaseous diffusion a decrease of the tidal air with an increase of the respiratory rate causing interference with pulmonary ventilation progressive anoxamia causing a compensatory poly cythamia and thus deep cyanosis and lowing of the

capillary circulation as the carbon dimen-

In cardiac diseases except congenit.

cyanoids is due to a slowing and distinct a capillary blood stream such as our stenous with the giving up of nors in stances with results in a higher produced hemoglobin. Oxygen the product of the circulatory failure.

Alkalons and narrotic poisonant crease in the hydrogen ion combined with a decrease in punutil the partial pressure of the armsufficient to agrate the pulmars best treatment in these conditions of op per cent oxygen and devide.

Worms, R. Nervous Disorders fraction:
Hiemorrhago (A proprio fraction nervous consecutifs aux persons in 1933 xh 215

fusion. The plantar refer Pinel and Esquirol posses after hamorthage Ti. delirium The sovereign o

After a hemotrhage ausceptible to hypnothe a fact appears to be explaing from the loss of U.

Experimentally, the groot for the common car so only if the animal har repeated hemorrhage with the clinical far for such a condition a relatively benign the hemorrhage is first. Therefore ligation for panied by a blood

mental Profi

In experimental anthracis Bear-

serum (of curative filer) injected under the skin at a distance from the infected region did not protect the rabbits from a fatal septiments, whereas the same dose of concentrated serum injected into the skin at

the air of the lesion protected the animal.

In another group of rabbits scake versom injected intracutaneously was rendered almost innocuous by the injection of animenom serum for even normal serum) around the site of inoculation whereas animenom serum injected under the skin at a distance from the site of the injection of the vector or into the pertioneal cavity had no effect on the evolution of the characteristic akin insidons, and antivenom serum injected intravenously did not have a constant effort.

When a third group of rabbits were injected with vacine virus insluted from animals dying from post vacines and such extension of the vacine which are sufficient to the sufficient of the virus prevented the formation of the skin lesion (even as late as twenty four bours after the inoculation) whereas concurrated strum riven elsewhere had no effect.

In experiments on games pigs in which tetanus toxin was inoculated and antitetanic serum was applied locally in liquid and in contract form, both the liquid and the ofntment were effective in preventing

the symptoms of testans. In experiments on rabbits in which diphtheria antitosin was rubbed into the skin in the form of a cream (knośliw ruseline) and diphtheria tonkin cream was rubbed in on the following day the antitoria was found to protect the animal. These experiments were controlled by substituting normal serum for the controlled by substituting normal serum for the controlled by

Bearedka draws the following conclusions

T. Serum given into the skin is absorbed so slowly

that anaphylaxis does not occur

2 A barrage of serum can be directed toward an infection while it is still localized.

3 When thus injected the serum comminto con tact with the tissues in a very concentrated form whereas when it passes through the blood stream it arrives at the site of infection much diluted.

 Antibodies may be prevented from reaching the affected area through the blood by a barrier of in flammation and orderna Marks W Poors, M D

Gibson H. J., and Thomson W. A. R.: A Study of the Etiology of Acute Rheumatism with Special Reference to the Relationship of the Hamolytic Streptococcus to the Disease. Eliskept M. J. 1933, 1, 93

The authors report investigations regarding the cause of rheumatic fever in which they attempted to determine the rife played by the hemolytic streptococcus and allergy to its products. Patients with rheumatism were treated by the intradermal injection of extracts of a variety of streptococci, hemoly

tic and non-hamolytic, isolated from persons with and without rheumatism. At the time of the tests throat swahe were taken. Throat swahe from soo persons with thermatism and are controls showed no significant difference between the a groups. In the cases of persons suffering from thenmatism the incidence of positive reactions to introdermal tests with the hemolytic streptococcus and extracts was found to be 68 a net cent, whereas in the controls it was ssu per cent. When cases of scute rheumatism were divided into febrile cases, afebrile cases, and cases of chores. Intradermal tests with he-molytic strentomorus extend were found to cause a positive skin reaction in the per cent of the febrile group, 27 per cent of the afebrile group and 96 per cent of the incidence of positive skin reactions was so per cent and in the alebnic control cases it was 77 per cent. Diminution of the activity of the skin is a nonmerific phenomenon which has been called a protective reaction. As the femres for the control series show it may occur in any febrile wasting or cachectic condition.

condition.

The relationship between tondillits and acute rheunatiam was also investigated. Seventices (it per cent) of the patients with rheunatiam gave a history of sore throat or tonsillitis lumediately be fore the onset of the rheunatic symptoms. Even though more than half of these patients were febrile, as per cent of them had a positive skin reaction to hemolytic streptococcus extract. Of the 10 patients whose tonsils were inflamed at the time of their admission to the homolytic streptococcus, and of those whose tonsils were enlarged but not inflamed, you per cent had a positive skin reaction to

The association of scarlet fever in the cases of rbeumatism and cases without rheumatism was not

significant.
The authors conclude from their observations that there is no essential difference between cases of the matter and control cases as reparts the akin reaction, the presence or absence of harmofyth streptococci of the threat; or the relations between akin reactions and threat cultures. They believe that acute the tenunstian is due to some inderdive again not yet recognized, the entrance of which into the body may be facilitated by infections with that the later of the properties of the strength of the culture of the control of the culture of th

DUCTLESS GLANDS

Ortenberg, S.: Parathyroid Dysfunction; Report of a Case Treated with Parathormons and irradiated Ergosterol. Consider M. Am. J. 1933xxviii. 400.

The author reports a case in which there was marked bone rarefaction in both ischia the pubic

rami and the head and neck of both femors. In the roentgenogram the rami of the pubic bone had a cotton wool appearance and the periotical outline was shager. In the other bones, but most strikingly in both illa there were rounded or oval shadows large and small, with complete absence of time density. The roentgenological diagnosis was caterite fibrosa crysical.

Later the patient sustained a fracture of the right tible and fibule and the third metatersal bone. Four months after the injury there was no callus formation even though cod liver oil, viosterol, and calcium were

given.

Four months after the injury the blood calcium was found to be 10 33 mgm. and one month later it was 9 8 mgm per 100 c.cm. No tumor was palpable in the neck. Following the second blood-calcium determination a daily done of 20 units of para thormone was given for five days each week for several weeks. Two weeks after the beginning of the hormone therapy the blood calcium was 9 8 and the inorganic phosphorus content of the blood was 3 3 mgm. per 700 c.cm.

Under the parathormone therapy the ordema disappeared from the ankles callus was formed and the patient became able to walk with the aid of a cane within aix weeks. Yazy examination of the bones are months after the beginning of the homeon therapy revealed a definite increase in the density of the bones and definite evidence of filling of the exitic defects with bone

The author calls attention to the fact that in true generalized osteitis fibrosa cyatica hyperparathyroid ism can be demonstrated but callus formation is unimpaired. In the case reported in this article bony union was absent and there was neither hyper calcarnia nor a palpable tumor of the parathyroid glands. In favor of a diagnosis of osteitus deformans were the patient a age and the poor callus formation but against it was the absence of pathogomomor changes in the calvarium. Osteomaicas was also ruled out. Therefore the condution was designated by the all indiunve term osteodystroph.

In discussing the literature the author expresses the opinion that a decaleying effect exerted by parathyroid hormone is due to toxic doses and that the case he reports in this article shows that when the hormone is given in small i.e. possibly physiological, doses it may be a positive or anabolic factor in calcium metabolism. Earl Olivineza M.D.

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COLLECTIVE REVIEW

THE PROSTATE GLAND AND VESICAL NECK

THEOPHIL P GRAUER, M.D., CHICAGO

REEMAN (24) states that non venereal prostatitis is a definite entity and that at least 20 per cent of cases of prostatitis are non venereal. He contends that the prostate is a definite portal of entry for bacteria and should always be considered a possible focus of infection. Non-specific prostatis may be secondary to a focus elsewhere. Therefore in the treatment of prostatutis other foca of infection should be removed or cleaned up Boyd (3) says that the use of heat in the treatment of prostatitus assusts the body in localizing and overcoming infections by temporarily increasing the circulation, favors absorption, and relieves pain. As the parts should be kept at rest, he regards it as madvisable to apply the heat by injecting hot water and having the patient expel it. Instead, he advocates the use of a two-way rectal tube made of metal.

Bohannan (2) reports a case of marked urticaria in which prostatuts was the only pathological condition found and treatment of the prostatuts resulted in rehef of the urticaria. He believes that latent prostatitis is frequently a focus of infection causing neurous, arthritis, ocular lesions, and

other pathological conditions.

From the extensive study of autopsy material and the cysto-methroscopic findings in clinical cases. Hyams and Kramer (32) conclude that fibrosis of the vesical orifice is due definitely to inflammation from surface infection or irritation of the submucous glands of the vesical neck and trigone. The inflammation preceding the fibrosis and causing obstruction of the vesical neck they term prefibrotic median bar? This condition is always associated with an inflammatory reaction

in the prostate seminal vesicles and ejaculatory ducts. There may or may not be residual urine. Patients with prefibrotic changes at the vesical neck complain more of discomfort or spasm at the internal sphincter than those with fibrotic median bar. In prefibrotic changes the punch or cutting current proves unsatisfactory and often exagger ates the symptoms. The treatment of choice is dilatation and the local application of heat.

Cancer of the prostate has been much discussed in the urological literature of the past year, chiefly with respect to its treatment by transurcthral resection. Caulk and Boon-Itt (9) reported 222 cases of carcinoma of the prostate. They state that this condition is responsible for 5 of every 1,000 male deaths. They emphasize the importance of the correction of chronic inflammation in its prevention. Their treatment consists of a cuttery punch operation to relieve obstruction supplemented by radium and X ray therapy. Relief of obstruction was obtained in 72 per cent of their cases. Twenty nine per cent of their patients survived for three years or longer and 10 per cent for five years or longer.

Ferguson (22) concluded from his own cases and the reports of others that cancer of the prostate does not always originate in the posterior lobe as has been believed. It has been definitely shown that cancer may arise in any portion of the prostate or its accessory lobes. Ferguson groups carcinomate of the prostate into 3 groups according to the symptoms, histological findings and degree of malignancy. In addition, he classifies them clinically from the standpoint of irradiation

therapy into the following a groups

- 1 Those suitable for palliative therapy only Such tumors are of considerable size and have formed demonstrable metastases. Palliation may be accured in external irradiation alone.
- 2 Those suitable for radical therapy. Such tumors measure less than 5 cm. in dameter and have formed no metastates. For this group a lethal tissue dose requires the use of both external and lottertinal irealization.

For temporary relief Colston and Lewis (15) have suggested the punch operation in its varying forms. They classify cases of malignant disease of the prostate into (1) those in the early stages which are sumble for radical operation (2) those without marked urinary obstruction but too far advanced for radical removal, in which irradiation with the X-rays or radium may unbilut or cause some retrogension in the growth and (3) those sinh varying degrees of obstruction which may be relieved by local and radium theram.

Colston and Lewis advocate permanent supra public cystotomy only as an emergency or pallia tive measure.

Fruchard (s) reports a case of advanced cancer of the prostate in which marked urinary symptoms and retention were overcome by suprapuble cyatotomy. A bayony diagnose of curcinoms of the prostate having been made. 450 me. of radium were given within a mouth by means of radium needles introduced transperineally, and radium seeds introduced by the abdominal route. Four and one half years later when the patient presented himself for hermal repair he was in very good condition. The prostate was small, not un-

diratted, and showed no agus of cancer.

A study presenting the clinical and \(^1\)-ray findings in 13 cases of bone metastases from cancer of the prostate which had no local diagnostic fea tures was published by Hagoenau and Gally (30). Common sites of metastases were the vertebre, line bones (particularly at the sacro-line junctions) and the epiphyses of the long bones.

DeRom and Thomas (20) reported a case of rhabdomyosarcoma of the prostate in which the diagnosis was confirmed at autopsy

Among the articles concerning suprapulse prostatectomy which have appeared in the past year was a discussion by Rathbun (49) of several phases of prostatem and prostatectomy about which there is still a difference of opinion. Cardio-vascular complications are very common and were responsible for the majority of deaths in Rathbun's cases. Rathbun subscribes to the view that prostatic hypertrophy is primarily a vascular disease, and emphasizes that an experienced intensit should be in close co-operation with the

surgeon. As most patients develop urinary infetion he believes it advantageous to allow this to occur before prostatectom; so that the patients resistance to it can develop. For the control of hemorrhage he carefully places a pack in the prostate bed. He has all of his patients typed for transfusion and always performs the prostat ectoms to a store.

ectomy in a stages.

Totic psychosis is a very important complication but receives little attention in textbooks or the literature. Rathbum believes the underlying factors to be cerebral arterosclerosis, sepsis, and umamia. The treatment consists of the dilution and elimination of torus and drug control of violent delirium.

Keves (33) reviewed prostatic surgery from the standpoint of his own and his father's results in the period from 1800 to 1900. In contrast to Randall he believes there is not uncommonly a sclerosis of the prostate distinct from the sclerosis of the vesical neck. The operation he prefers for vesical neck sclerosis is suprapuble resection by means of a rongeur. He employs this method means in which the Caulik and Young punch have falled. He has not used the urethral procedure of Davis or McCarthy.

Kretschmer (xx) stresses the fact that preoperative care by the prologust and interplat has decreased the mortality of prostatectomy. He states that the intermst has done much by improving the condition of patients suffering from benign hypertrophy of the prostate with complicating factors such as cardiac, diabetic, and other general disorders. He discusses also the urological preparation of the patient with the indwelling catheter or by suprapuble cystotomy He states that both methods have staunch adberents and that he has had good results from both of them. His routine pre-operative examination consists of chemical examination of the blood, tests of kidney function, cystoscopic ex amination, flat-plate 1-ray examination of the genito-urinary tract, and occanonally intravenous pyclography

Riches and Mult (50) studied the prostate gland and the history in 114 cases of prostate tomy in an attempt to establish a relationship between the type of prostate; the symptoms, and the prognosis after prostatectomy. The following hatological classification of benign prostates is suggested (1) glandular enlargement, (3) intermediate form with some fibrosis in the glandular tissue, (3) fibrous prostate and (4) calculous prostantes.

Riches and Muir conclude that complications are fewest, the mortality is lowest, and the endresults are most satisfactory in the glandular type the mortality is highest in the calculous type and the end-results in the fibrous and calculous types are less satisfactory than those obtained in the glandular type. No attempt is made to evaluate the different operations and the general physical condition of the patients is not taken into consideration.

Lichtenstern (36) has performed 600 prostated tomies with a mortality of 3 8 per cent. He at taches great importance to the pre-operative study of the case. He supplements his clinical impression of the patient by (i) experimental polyuria (2) quantitative estimations of the unnary salts on consecutive days, (3) determina tions of the nitrogen excretion on a known protein diet (4) determinations of the blood urea and total non-protein nitrogen (5) an attempt to aimulate the strain imposed on renal function by prostatectomy by placing the patient on a high nitrogen high chloride and limited flind intake and then studying the blood chemistry, (6) a study of renal function by intravenous prography and (7) a study of the residual urme in the bladder

In the cases of patients with a small amount of residual urne Lichtenstern is not opposed to bilateral ligation of the vas and deep X ray therapy. In the cases of patients with a large amount of residual urne who are not good operative risks, he implants radium in the lobes of the prostate through a perineal incision. However, in the majority of cases he performs a suprapulse prostatectomy, preferably in a single stage.

Calka (7) emphasizes the importance of thor ough preparation of the patient by a 2-stage operation except in early cases. For malignancy of the prostate he favors the perineal operation because the capsule and seminal vesicles can also be removed in this way.

Cholcov (11) believes that infection is the greatest danger of prostatic hypertrophy with obstruction. Mechanical damage to the kidney due to backpressure is also important. In early cases prostatectomy is not especially dangerous. In later cases, a 2-stage supraphic operation should be done. A Pilcher bag is used for he mostasis.

Devine (21) suggests several refinements in the technique and after-care of prostatectomy. He uses special spoon retractors which distend the bladder wall. They serve also for illumination as they contain a small electrical lamp. With the patient in the Trendelenburg position, one

spoon" may be used to catch the blood which is removed by suction In the removal of the gland a circular incision is first made around the internal urethral orifice. The prostate is then dissected out, the dissection starting on its posterior surface. Bleeders are clamped or tied. After removal the mucous membrane in the vicinity is dissected up and stitched to the prostatic bed. To aid in the healing a special drainage tube with a suction attachment is inserted as far as the cavity from which the prostate was removed.

Crosbie (17) is opposed to catheter drainage for the preparation of patients with prostatic hyper trophy for operation. He avoids the use of all drugs before and after prostatectomy. He never irrigates bladders even after the second stage and he objects to manipulation such as is necessitated by cystoscopy cystography and ureterography. He believes it preferable to wait too long between stages rather than not long enough, and he performs bilateral vascetomy routinely.

Thompson (56) presents many details in the operative pre-operative and postoperative treat ment of prostates which are of importance in the success of prostatectomy. Before the operation, he has the patient taught thoracic respiration by a nurse. The usual functional tests are carried out and the patient allowed to become accustomed to his surroundings. Thompson has no fear of using the catheter if proper precautions for antisepsis are taken. It has the advantage of revealing local conditions of the urethra-

At operation the bladder is filled with a mild antiseptic solution until it rises just above the pubs. The perivesical spaces are packed off and the bladder is opened transversely. The adenoma is removed and hemostasis obtained by sutures or a pack. If there is no bleeding the bladder is allowed to fall back into its normal position. The prostatic cavity itself is dramed by a glass tube equipped with an oblique flange. Rubber is not used. Sutures are placed through fascia and skin with avoidance of the rectus muscle. In order to prevent local cedema sutures are comitted from the lower part of the skin wound. Before the dressing is applied the penis and scrotum are stranged high on the abdomen

Close (12) offers a modification of the Harris method of prostatectomy in which the bladder is closed at operation. He has tried this modification in 6 cases. In 5 it was successful. In 1 case re-opening of the bladder was necessary because of a secondary hemotrhage due to a retained gaure tampon.

The usual suprapubic incision is made. The enucleation of the prostate is performed intra urethrally in order to preserve as much mucosa

on the bladder aspect as possible. Next, a purse string enture of No. 2 plain catgut is passed in and out around the margin of the bladder muccos. the latter being transfixed at 6 or 7 points by means of a boomerang needle. Then a Size is E Person catheter is inserted and carried through the prethra by a special instrument much like the mandarin used to carry an ordinary irrethral catheter. The numestring anture is tightened around the Persar cutheter behind the bulge and traction sufficient to control the bleeding is made by fixing the catheter to the thigh with adhesive tane. The bladder is turbily closed and the space of Retrius drained with a rubber drains. The traction is released after twenty-four hours, and the catheter is removed on the eighth, ninth, or tenth day

An estimate of the value of cystograms and methrograms in the diagnosis of prostatic obstruction is made by Crabtree and Brodney (16) They show these X ray studies to be important diagnostic measures especially when intraurethral treatment alone is to be employed. They afford also a means of showing eraphically the etiological factors of poor postoperative functional results. Cystograms disclose a major variations from the normal filling defects of the bladder have elevation of the bladder have above the symphysis, and asymmetry of the bladder base manifested by irregularity of the curve. In cases in which the gland is large urethrograms show increased length of the prostatic urethra from the caput to the internal onfice and narrow ing or flattening and deviation from the midline of the prostatic lumen.

Wills (61) presents a new instrument for use in suprapuble prostatectomy. It consists of a tube with a pair of a toothed laws which can be made to stand at right angles from the tube by controls at the free end. When inserted into the prostatic prethra this tube holds the prestate firmly allows it to be drawn upward and forward, permits enucleation with scalpel and Mayo scissors, and renders the introduction of a finger into the rec tum unnecessary

For the administration of surgical disthermy to the enlarged prostate Vogel (60) recommends a Tlemann catheter with a ring electrode Good results are obtained not only by the burning awas of these but also by the shriveling and retraction which take place with the healing. The hollow catheter with a full bladder prevents burning of the bladder as fluid escapes as soon as the eye of the catheter enters the bladder

Gil Vernet (27) recently described a new method of permeal prostatectomy which is superior to the old perineal procedure because it can be performed rapidly without danger of injuring the posterior trethrs or rectum and is not followed by incontinence or rectal fixtule. He terms his operation the percental route." An arched cutaneous incision a cm. long is made in the perineum 1 cm, from the anus. The center of the perineum is out, and by fineer dissection the perirectal space is opened sufficiently to expose the posterior surface of the prostate. The latter is incleed in the midline and the prostate enncleated. A Pezzar cutheter is inserted up to the bladder and the prostatic cavity tamponed.

Haim (21) makes an inclaion passing between the rectum and the external subjecter of the anns. the latter being supported above by a special valve. By blunt dissection, he reaches the norterior surface of the prostate through the retrovesical sentum. A retractor in the form of a catheter which facilitates enucleation is introduced. Enucleation is done in the manner of a hypogastric prostatectomy. Bleeding yearch are ligated and a permanent prethral catheter is inserted. A tampon is left in for twenty-four hours.

Haim says that in cases of large adenomatous lobules it is possible for the urethra to be injured slightly during enucleation, but this danger is not serious. Moreover because of rapid contraction and retraction of the unmirred muscles, the wound remains as a feature and emplation soon CTANCE

Moszkowicz (42) surpests that prostatic by pertrophy may be an endocrine disturbance. He states that the swelling in prostatic hypertrophy has long been believed to arise from the glands nearest the bladder neck surrounding the urethra. It has been found that hermaphrodites with dominant male characteristics (possessing testes) and also female hermaphrodites (possessing ovaries) have prostate tissue. In the female her maphrodite the prostatic timpe is at the neck of the bladder proximal to the colliculus seminals. In the male bermanbrodite it is distal to the colliculus. This condition prevails also in the embryo. In the female embryo a prostatic anlage is found proximal to the muellerian ducts, and in the male embryo distal to the wolffian ducts. In the female the hypertrophy nearby always occurs in the more proximal glands and can therefore be compared to the enlargement of the male breast in endocrine disturbances and following customtion. From a study of the findings at autopsy on 100 males of all ages, Ljubin (17) draws the fol-

lowing conclusions regarding the prostate gland On the basis of the outer contour 3 types can be dustinguished

1 The embryonic type. In this type the length of the gland is as long as, or longer than, the cross diameter and somewhat cone shaped

2 The differentiated type, in which the length is about one half the cross diameter and roughly resembles a chestnut in shape.

3 A type in which the length is from 40 to 80

per cent of the cross diameter

In children the embryonic type, and in adults the differentiated type, is the most common. After the age of fifty years the frequency of the embryonic type increases again.

Stature has some relation to the type of the prostate. In short men the prostate is more apt to be of the embryonic type, whereas in tall men it is more apt to be of the differentiated type.

From birth, the prostate in man is a single organ with different surfaces but no distinct lobes. The normal prostate has no isolated mid

dle løbe.

Melen (41) reports a case of multilocular cyst of the anterior lobe of the prostate which caused symptoms similar to those of hypertrophy of the prostate. The rectal findings were negative. The gland was removed by suprapublic prostatectomy

Margold (38) reports a unilocular cyst of the prostate causing symptoms of obstruction at the vestical neck in a man fifty four years of age. The cyst was removed by suprapulse operation.

The phase of unological surgery receiving the whilest discussion during the past year was probably transmethral resection of the prostate. As early as 1830 Guthre devised an instrument and described an operation for the correction of bar obstruction of the neck of the bladder Bottlin introduced his cautery incisor in 1874. Frenden burg in 1897 and Chetwood in 1901 modified the Bottlini instrument, but the lack of visualization resulted in numerous accidents and caused their instrument to be discarded

Interest in the transurethral relief of vesscal neck obstruction was renewed by Young in 1909 when he presented his punch. Cault, in 1919 introduced his cautery punch in which the use of the cautery blade to section tissue and reduce hæmorrhage permitted the removal of more tissue.

In 1926 Collings reported the sectioning of bars and contractures by means of a high frequency electrical current with suitable electrodes through the panendoscope under vision with a lens system. He emphasized that his procedure should be limited to bars and contractures of the vesseal orifice. The same year Stern presented his ingentious instrument which be called a 'resecto-scope.' This instrument is superior to its predecessors.

In 1030 Kirwin introduced his resector, in the use of which an electrode is employed to coagulate the basue for hamosinsis prior to its removal by a rotating knife. During the past year, McCarthy has adapted the principle of Stern, using a cutting loop through a speculiv constructed instrument. With this he has had remarkable success in remodeling the prostatic urethra. Numerous others have made modifications of instruments previously introduced.

Davis (18 10) uses the Stern resectoscope with the Bovie-Davis high-frequency unit. The cut ting current is a moderately damped current. In the same instrument a highly damped unit for coagulation is incorporated. Davis has operated on 339 cases of vesical neck obstruction representing all types. The amount of tissue removed varies from 15 to 45 gm. Eleven early cases required repeat resections within aux months. Two cases required 2 stage resections. The aver age hospital stay was four days. A recurrence developed in 1 case.

When the Bovie Davis unit is employed there is practically no hamorrhage. The highly cumped current is always available for bleeders. In 2 cases cited secondary hamorrhage was easily

controlled transurethrally

Infection is negligible, only 15 per cent of the patients had a temperature elevation. In 40 cases resection was done for carcinoma of the prostate. There were no deaths immediately following the operation. Of 3 deaths which resulted later, 2 were cardiac deaths and 1 was due to hemorrhagic nephritis and uneruna.

In every case in which the residual urme before the patient s discharge was more than 2 oz. it was

later found not less than I oz.

McCarthy (39 40) gives credit to Stern for the assembling of the essential elements of the modern resectoscope and to Davis for demonstrating the feasibility of resection of the prostate under proper conditions. The ideal requirements for this operation are (1) most precise visualization of the prostatic urethra (2) the greatest possible flexibility of manipulation under vision, of the electrical cutting loop (3) ample electrical power to excise the obstructing prostate under water with minimal hemorrhage and tissue coagulation, (4) interchangeability and ease of manipulation of electrodes in the closure of bleeding points, (5) completion of the operation, including the introduction of a whistle tip indwelling catheter, with but one introduction of the instrument, the sheath being withdrawn after the catheter has been passed through it. When given by an experienced urologist, this type of treatment is adequate in

cases of prostatic fibrosis and for rebel in pro-

etatic carcinoma

Bleeding is controlled under vision before removal of the instrument. A special type of has for harmostasis has been perfected for use in cases of persistent onzine. As much prostatic tissue as is desired may be removed, and the expenence of Caulk and Davis indicates that the results are relatively permanent. McCarthy has seldom had to repeat the procedure. The preliminary care should be the same as for prostatectomy

Neshet (42) states that with the use of the resectorcone it is possible, under continuous direct. vision, to excise any vesical neck obstruction. whether it is sear contracture, carmnoms, or hyperplasia of the prostate, with practically no loss of blood and with surprisingly little post operative reaction. Either low spinal or sacral angesthesia is used. Nesbit has done 50 such ex cidons himself with no mortality. He reviews Davis soo operations and Alcock a first 118 onemations.

Plageemeyer and Weltman (48) state that in cancer of the prostate resectoscopy is preferable to permanent suprapulse cystotomy, and that in prostatic enlargement removal of the obstructive portion of the prostate by the resectoscope is proving less dangerous and time-consuming than and just as beneficial as, prostatectomy

Contra indications are large stones in the blad der Jarge diverticula of the bladder and cases in which catheter drainage is not tolerated.

Stirling (xx) gives a rapid review of the development of the resectoscope and the technique of its use. He emphasizes the importance of pre-opera tive preparation. He believes that the use of the resectoscope is indicated for bars, median lobes, and prostatic hypertrophy of Grades 1 2 and 1 and that it is contra indicated for prostatic hy pertrophy of Grade 4 vascular prostates, and potients who are debilitated. In a series of 30 cases of transurethral resection, Ockerblad (45, 46) had r death. This was due to secondary hemorrhage on the tenth postoperative day. Good results were obtained in 29 cases. The average stay in the hospital was fourteen days, and the average number of postoperative days in the hospital was six. In a cases repeated resections were necesmany A case in which postoperative epididymitis developed is reported.

Pedroso (47) reports the first to cases of prostatic hypertrophy which he treated by resection He states that the value of this method as a substitute for prostatectomy will be determined by the permanency of the cure. Its immediate results are very satisfactory

Shivers (ca) states that the transcrethral opera tion is feasible when a more serious operation would be dangerous. He performs prostatectomy only in cases in which there is an accompanying hypertrophy of the lateral lobes. In all other cases the results of the transpirethral operation are excellent the ayuntoms of prostation subsiding completely

Bumpus uses the direct vision Breach cycloscope which is provided with a suitable fenestra. The trasse engaged is first congulated by a multiple-needle electrode, after which it is removed by a sharn tubular knife. Bleeders are taken care of by a Buzbee electrode with a congulating current. Harmorthage is seldom an alarming complication. A catheter of large caliber is inserted and left in for from forty-eight to seventy two hours to per mit free drainage and thereby lessen the danger of bleeding. Failures result only when insufficient tissue has been removed. Of the 200 cases which Bumpus reports, a subsequent prostatectomy was done in o. There were 6 deaths in the 250 CARCA. Four were due to sensis and I was a CAT disc death. Forty-six patients had multiple resections Resections for hypertrophy and adenocarcinoma give the best results.

Caulk and Wiseman (10) also report good results from the transprethral resection of prostatic obstructions. They are urologists to investigate thoroughly and observe results over a period of time before condemning a new procedure especially a procedure for the operative relief of prostatic obstruction. They emphasize the importance of pre-operative care in this method of treatment and from a long experience conclude that transprethral resection is adaptable to practically any type of prostatic obstruction

They discuss their technique in various types of cases and give exceptionally low mortality figures. They urge more universal adoption of the method in preference to radical operation. Not all prologists are as optimistic about trans-

urethral resection. Although a majority of the articles reviewed seem to be by those who lavor the method, Cabot (6) among others, advises against overenthusiasm regarding it. He believes that the method is becoming too popular too fast, and that more conservative surgeons will continue to do either permeal or suprapuble operations at least in cases of marked hypertrophy

In another article Cabot (5) states that the mortality of transurethral resection at the Mayo Clinic is somewhat under 3 per cent, which is lower than that of any other operation. One of the chief advantages of the method is the brief ness of the hospital confinement averaging from seven to ten days. Cabot hesitates to advise transurethral resection for cases of enormous enlargements and large median lobes which herniate into the bladder but is of the opinion that within the next few years it will be done in perhaps 75 per cent of cases of prostatic hypertrophy

Although Collings (14) has himself devised an instrument for transurethral operation and reports excellent results from its use in selected cases he believes that only small and moderate sized prostatic obstructions may be effectively removed by transurethral operation. Because of instrumental difficulty and prolonged cystoscopic manipulation marked enlargement is best re-

heved by prostatectomy Kirwin (34) believes that the transurethral operation is the ideal procedure for contraction of the vesical neck, carcinoma of the prostate (if any instrumentation is possible), congenital valves of the urethra, subcervical hypertrophy of Albarran's glands, alight enlargement of the median lobe, moderate median lobe hypertrophy with small intravesical protrusion of the lateral lobes, intra urethral projection of enlarged lateral lobes, and slight enlargement of the lateral lobes without enlargement of the median lobe. For the patient in good phymical condition presenting marked intra urethral and intravencal protrusion of the lateral lobes as well as hypertrophy of the middle lobe, open operation will always be indicated. When the intra urethral route is followed exactly the same pre-operative precautions must be observed

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ABSTRACTS OF CURRENT LITERATURE

SURGERY OF THE HEAD AND NECK

HEAD

Gallots Japiot and Levy: The Architecture of the Skull, its Functional Rôle and Mode of Resiat ance (Architecture du crâne, son rôle fonctionnel, son mode de résistance) Res de chir., Par., 1933 ili 371

The skull supports the face, participates in the movements of the face, and contains and protects the brain. Externally it acts as a lever supporting the face and restling upon the spine as a fulcrum. Internally it is arranged to suspend and shelter the brain and permit it to follow the movements of the head. The meninges and their partitions are inti mately attached to the lnner surface. Structurally the skull is composed of two layers. The internal lamina is dense and homogeneous and, together with the dura mater envelops and protects the brain from external vuolence. Its function is passive. The external lamina is arranged in accordance with Wolff's law It is more clastic than the internal lamins and is reactly fractured alone. The inner lamins is oftitle and first to fracture.

LEO M ZIMMERMAN M.D.

Wilensky A. O : Osteomyelitis of the Skull. 4rch Suff., 1943 xxvil 83

The clinical picture presented by the majority of cases of osteomycilits of the skull is very similar The infection arises as a primary or retension process or occurs as a mainliestation of a hermatogenous in fection. It is rate as a primary disease. It is most common as an extension process after massl accessory sinus disease. It is relatively rare as a hermatogenous infection, and is least common as a compilation of an otological infection.

The osteomychild begins in the diplos. From there the infection spreads through the outer table, giving rise to subperiosteal abscesses beneath the scalp and inward, sometimes giving rise to extra dural or subdural subscess, general meninguis, cerebral abscess, or thrombous of the longitudinal or other large alouses.

The dara mater is affected in practically all cases. The pachymeniagitis may remain localized a long time. Thrombodis occurs chiefly in the cavernous lateral or longitudinal sinuses. The invasion of a large venous sinus is often manifested by emtholi with distant metastases. Pneumonia or bronchopneu monis frequently occurs

It is generally easy to make a diagnosis of osteomyelitis in the bones near the orbit or ear but it is often difficult to recognize the diffuse form because the general symptoms may mask the local symp-

toms. A diagnosis may be made before operation if a careful study is made of the symptoms that accompany the sinusitis or mastoiditis.

When the osteomyellis becomes evident open sible. The crainal bones should be as extensive as possible. The crainal bones should be resected beyond the limits of the lesion. If the wound continues to granulate and if the temperature remains high, sequestra are present and should be removed as completely as possible.

The mortality is high. SAMUEL KAIIN MeD.

Doench H O: Air Embolism in Injuries of the Longitudinal Sinus (Luitembolic bei Verletzung des Sinus longitudinalis) Zeniralbi f Chir., 1933 p 486

In a review of the literature the author was able to find the report of only one case of air embolism from direct sinus injury. This was a case reported by Bergmann and not completely explained. Opera tive injuries of the cerebral sinuses have been reported by Genzmer and Knih. Cramer found that under normal conditions and in the horizontal position there is a positive pressure of at least 90 mm. of water which prevents air embolism in case of sinus injury. Danger arises only when the patient is exangulanted or operated upon in the sitting position under which circumstances the positive pressure is replaced by a negative pressure.

The author reports a death from air embolism due to injury of the longitudinal sinus. The patient was a boy eleven years old who was treated for a ro-cm. occipital wound and a depressed fracture caused by a hatchet. In the cleaning up of the wound and the removal of the bone fragments a tear occurred into the longitudinal sinus. This was immediately tam poned. An anterior ligature was then applied but before occipital ligation could be done the fatal embolism was manifested by a hissing sound Doench concludes that the first ligation should be done proximally PLPS (2)

Bercher J and Friez, P: Classification of Anterior Dialocations of the Temporomaxillary Articu lation (Classification des luxations anterieures de l'articulation temporomaxillaire) Presse méd., Par., 1933 xil 644

From the numerous articles on dislocation of the temporomaxillary articulation which have been published since 1920 the complexity of the mechanical disturbances in the region of this articulation is apparent. In a review of this literature the authors were impressed by the lack of agreement as to

nomenclature. They have therefore attempted to formulate a clinical classification of these disloca tions, emerially those of the recurring type. They didde the delocations into three groupe—the dynamic the kinetic and the static

Dynamic dislocations are produced by an excessive forced active or passive lowering of the mandible.

Kinetic dislocations occur during the course of normal movements of the temporomaxillary articu lation. Whenes constant attention of the nationt may present recurrences of the dynamic type of dislocation the kinetic type occurs on even very

alight movements of the chin, sometims when the month is opened only very slightly (r or a cm.) The difficulties in mostication are considerable The condition is not a true dislocation, but results almost in immobility of the law

Static dislocations are permanent and continuous. Even in a state of repose (occlusion), the mandibular condule, because of various conditions (fracture or excessive size), occupies a position more anterior than normal, a position corresponding to a slight gaping

of the name.

Dynamic dislocations include fixed artificially reducible dialocations and non-fixed, physiologically reducible dialocations. They may be unflateral or bilateral, but are more frequently bilateral. They are rarely congenital, almost always acquired. The term artificially reducible means that reduction requires manual intervention with or without muscular action by the patient. The term nhv stolarically reducible means that reduction may be effected by the patient by merely relaxing one set of muscles and simultaneously contracting another set.

Only very few cases of congenital fixed dynamic dislocation have been reported (Smith Wilcox) The acquired type is usually a simple traumatic dislocation which is easily reduced by the classical manual maneuver. However it may be irreducible from the beginning or become irreducible second arily Under such circumstances surgical interven tion and meniscectomy are the procedures usually employed

Even after proper reduction these traumatic dislocations have a tendency to recur. Some of them recur only two or three times during life whereas others recur several times a day. The au thors designate the former as "repeated dislocations

and the latter as "recurrent dislocations. The non-fixed dynamic dislocations which are

physiologically reducible have been designated by a confusing variety of names. The authors suggest calling them habitual non-fixed dislocations" or habitual physiologically reducible dislocations. They may be unflateral, but are much more com monly bilateral. They are not infroquent in adults. In a review of the literature the authors found the report of only one congenital case of this type They do not know the frequency of congenital cases, but state that they have observed the condition in several children from seven to eight years

The kinetic dislocations are functional because they occur during the course of normal movements They may be unilateral or bilateral. They are necodoluzations occurring independently of the respective position of the bony surfaces in other words, they are meniscal dislocations. This group includes Cooper's subjurations, which are fixed kinetic artificially reducible dislocations and also the non-fixed physiologically reducible delocations They correspond to an abnormal displacement of the intra-articular meniscus during movements of the condular head. This nathogenic definition should exclude dislocations proper but the intraarticular site as well as the symptoms and treatment induce the authors to include the latter

In sublurations the law is fixed in a notition of slight opening and reduction is often oulte easy by alight pressure on the chin or contraction of the muscles of diduction by the nationt. Most surreous agree that in all of these kinetic dislocations the hest results are obtained by meniscopery or menis-

cectomy Physiologically reducible dislocations may sud dealy become fixed and require artificial reduction. This change may be explained by hyperdistention followed by retraction of the posterior menical ligament capable of displacing the meniscus back ward and thus causing firstion

There is also a type of meniscal dislocation which h reduced spontaneously For the condition responsible for this dislocation the term "ments-

citis. first used by Lanz, seems appropriate.

Among the static dislocations due to traums are dislocations following high subcoodylar fractures with or without consolidation. In fractures of this type the condyle is drawn by the external pterygold forward and inward. It remains within the articular capsule but is in an abcormal position. When the fracture does not consolidate there develops a subcondylar pseudarthrosis which is physiologically satisfactory When the fracture consolidates, the condyle remains in an abnormal position but develops satisfactory function in this position because of the anatomical reserve which Schilleau has described as being of great importance in the temporomaxillary articulation. In this group belong also the static dislocations secondary to lesions of the soft tissues of the face and neck without bone involvement such as fibrous dea trices, muscular contractions and retractions of nithintism.

The non-traumatic group of static dislocations are unilateral dialocations with lateral deviation of the mandible. They are associated with hyper trophy of the condyle which is not continued into the glenoid cavity The nature of the epiphyseal hypertrophy remains obscure.

In conclusion the authors state that anomalies of dental apposition may cause condylar slipping In aged persons who have lost their teeth the condyle is always more anterior than normal.

Engra 5 Moons

EYE

Benedict, W L Retrobulbar Neuritis and Disease of the Nasal Accessory Sinuses. Arch Ophth 1931 ix, 893

Much has been written on the anatomical position of the fibers of the ontic nerve and their relation to the nasal accessory sinuses which gives the impression that disease of the sinuses or changes in their structural development have a direct bearing on the function of the optic perves through contiguity The anatomical variations in the sinuses permit a variety of relationships between the aphenoid and ethmoid cells and the nerve in its passage through the optic foramen and on to the chiasm. It has been intimated that disease of the mucosa of the accessory sinuses may be transmitted to the optic nerve by direct extension or by the diffusion of toxic material along the blood vessels traversing the region.

However, the effects on the optic nerve of disease of the nasal accessory sinuses have not been established. In the explanation of involvement of the ontic nerve by infection of the sinuses contiguous to its course more stress has been laid on the presence of injection in the sinuses or hyperplasia of the sinus mucosa than on pressure on the optic nerve by the walls of the sinus or by construction of the optic foramen. In spate of the fact that changes in the visual field are not often found in rather extensive diseases of the sinuses, in cases of retrobulbar neu ritis the rhinologist is often urged to operate on ethmoid and sphenoid sinuses in which he can discover no disease.

When the vast number of cases of severe suppura tive sinus disease without visual symptoms is con sidered, a relationship between sinus disease and retrobulbar neuritis becomes much less credible. Even in the presence of dehiscences in the bony walls in either acute or chronic disease of the ethmoid and sphenoid cells lying near the optic nerve the inci dence of visual disturbances in patients seen in the Mayo Clinic is negligible. The transmission of in flammation from the sinuses to the optic nerve by direct extension, through the blood or lymph stream or by toxins emanating from slightly thickened mu cous membranes and diffused as noxious vapors has received no convincing experimental proof Most authorities are agreed that multiple sclerous ac counts for the greatest number of cases of retrobul bar neuritis.

Of 225 cases of retrobulbar neuritis seen at the Mayo Clinic, the cause was found to be multiple sclerosis in 155 pernicious anemia and nicotine in 14 diabetes in 14 alcohol and tobacco in 18 syphilis in 2 congenital amblyopia in 4 familial causes in 1 sinus disease in 1, postpartum hamorrhage in 1 plumbism in z and an indeterminate factor in 3.

In comparing treatment by means of foreign proteln with operation on the sinuses, it is evident that the improvement obtained is due to the same factor It has been shown that the injection of typhoid vac cine materially increases the pempheral circulation

The resulting improvement in the circulation of the nerve restores the function of the nerve. The same effect can be produced by other means such as the application of a 2 per cent fedine solution to the nasal mucosa, the administration of nitrites, pilocarpin, or other vasodilating agents, and the induc non of aweats.

Operation on the nasal sinuses has two effects which have not been fully taken into account by those who advocate such treatment for retrobulbar neuritis. Packing of the nose with cocaine and epinephrin for anesthena produces, first, ischemia and then congestion of the membranes. Following the operation there is continued congestion of the mucosa of the sauses and the adjacent tissues until healing is complete. If the operation has been suffi ciently extensive, there is commonly a rise in the temperature of 1 or 2 degrees F from the absorption of blood which in effect is autovaccination. These two effects are similar to those produced by injections of foreign protein. The author believes that improvement following operation is due less to the drainage of secretion from the paranasal sinuses than to the hypersemia caused by the packing and the reaction to the operation and the moculation by absorption of blood. This theory is supported by the course of many patients after operation. Operations on the sinuses are followed by quick improvement but often relapses occur soon because the hypersemia has not continued long enough. By applying a 2 per cent foding solution to the nasal mucosa or pack. ing the nose 2 or 3 times daily with mild silver protein and allowing the packs to remain in place for three hours hypersemia can be induced for a longer time. This treatment is reported to be as effective as operation on the sinuses.

Except when it is possible to establish a diagnosis of suppurative disease of the sinuses definitely the author believes that advising an operation on the sinuses is unwarranted in any case of retrobulbar neuritis. If a suppurative disease of the sinuses is obviously present, operation should be performed for relief of the local condition and additional measures should be employed to relieve the retrobulbar neuritis, for even in the presence of infection of the sinuses one cannot be sure that some other factor is not present. In most instances operations on the sinuses probably do little harm and in many cases they do some good. The chief objection to them hea in the use of an adequate and unwarranted procedure when better methods of treatment are available

Samuels, B : The Significance of Specific Inflitra tion at the Site of Injury in Sympathetic Ophthalmia Arch Ophth 1933 ix 540

This article is based on the examination of for eyes with sympathetic ophthalmia. In all but 7 of the cases specific infiltration was present also in the other eye. In a study of the site of the injury which as a rule was near the limbus the uvea was usually found more inflamed at this site than elsewhere. In most of the small number of cases in which the uves

was more inflamed elsewhere than at the site of the injury only I or 2 sildes were available for study In Samuels opinion the greater inflammation at

In Samuels opinion the greater infiammation at the site of the injury indicates that sympathetic ophthalmia is due to an infection rather than an alterny and is caused by an organism entering an opening in the cycledi. Thouas D Allin M.D.

Globus, J. H.: Tumors Affecting the Optic Chisam and Optic Tracts: A Brief Critical Survey of Their Clinical and Anatomical Features. Arch Optic 1913, in, 740.

Chief among conditions of the central nervous system causing visual disturbances are epidemic encephalitis, multiple sciences, syphilis, and intracranial temora.

In cases of intracranial tumor the first sign observed by the ophthalmologist is apt to be papilledema. The rate at which the papilledema develops and the degree to which it advances may throw some light on the location of the tumor. In cases of tumor of the posterior forms arising in the cerebellum, the region of the quadrigeminate plate, or somewhat more forward in the interned uncular space in the third ventricle, papillordema appears early advances rapidly and reaches a degree exceeding that usually noted in cases of tumor in a more enterior situation Disturbances of aculty of which and particularly in the fields of vision are common in tumor of the brain, and perhaps more frequent than is generally realized. There are several crucial points in the optic system where an interruption will result in fairly typical visual disturbances. Such disturbances when amordated with signs of involvement of contiguous parts of the brain give rise to the following syndromes (1) prechiasmal (2) chiasmal (2) suprasel lar and (b) intrasellar (a) temporal lobe, (4) occipi tal lobe, and (5) quadrigeninal plate.

Primary gliomats of the optic chiams are exceed ingly zer. The general region where the tumor is situated may be determined from the ophthalmological fieldings. The tumor may be distinguished from other lesions by (1) absence of changes in the sells aturcia, (2) absence of calcium deposits in the supersular region, (3) the possible presence of other manifestations of row Rectinghamens's disease (4) early primary optic strophy with the occasional superimposition of papillechema, (5) rapid progresstive loss of vision associated with a unflateral temporal defect, and (6) a peculiar lateral outline of the anterior part of the selfa which gives the impression of a bulge under the anterior clinoids, but is due to enlargement of the optic foramina. Surpical intervention is not uncerabil.

Tumors of the crasiopharyngeal duct are teratoid and may be regarded as autochthonous ternatomata. Among the symptoms appearing most often in preadelescence are maillestations of darkination of the sympathetic nervous system—polydipsia, polyoria, secural and skeletal infantiation, adiposity and by personnia. When these are associated with bitem roral hemispoopia, involvement of the oeukmotor

nerves, and deposits of calcium in the supersidinregion without deformity of the sells storice, they point definitely to a tumor of the canalopharyngest duct in the interpeducenth space. The results of operation are best in cases of small thin-walled cyst. Evacuation with partial or complete removal of the cyst will has often yielded brilliant results. In cases of solid canalopharyngiomats the operative risk is high. Surpical intervention promises little for retoration of normal vision.

The suprasellar meningions occurs in middle ag and is characterized by primary optic atrophy bitemporal hemianopsis or a tendency toward that condition, non-involvement of the sells turcks, and, consisonally a calcium specking in the suprasellar region. Of all tumors involving the chiham, sepacilar meningionats are the most favorable for opsellar meningionats are the most favorable for op-

eration Suprasellar hypophyseal adenomata occur most fremently in middle are and may be associated with bilateral optic atrophy and bitemporal hembroods. They may cause no distortion of the sells. As the hypophysis is maffected, there are no hypophyses! symptoms. A homonymous hemispoode defect on the right side is not inconsistent with a hypophyses! adenoma. The initial visual disturbance may consist of a small pullateral temporal defect, but instead of developing into typical bitemporal hemianomia the tumor may cause a homonymous defect by involving one of the tracts. Birasal hemianooda is a more uncommon field defect. In the treatment, by far the most satisfactory results are obtained by operation. High voltage mentures or radium therapy may occasionally cause improvement, but does not

arrist the pathological process. Lesions of the temporal lobe, when not accompanied by such localizing signs as unclinate settings, signal hallochattons, or typical speech disturbance, sire often very difficult to diagnose. When the lesions is situated in the left hemisphere the temporal anomia may be the steedding factor in its localization. When the issoin is in the right hemisphere, the focal signs may be so meager that they give no due to its position. A knowledge of the course and distribution of the gradiculocalcanine fibers is of great sid. Cubing focused attention on the so-called Meyer loop which plays an important part in the causation of a partial or so-called quadrantic type of bemianopsic defect. This visual distortion may often be the only decisive diagnostic sign.

occisive diagnosity cign.

The most characteristic sign of a tumor of the control laboracteristic sign of a tumor of the control laboracteristic sign of a tumor of the characteristic sign of the control laboracteristic sign of the control laboracteristic sign of the control laboracteristic of the bendering sign of the control laboracteristic of the bendering sign of the control laboracteristic of the laboracteristic sign of the laboracteristic of control laboracteristic sign of the laboracteristic of control laboracteristic sign of the laboracteristic sign

optical aphasia and word blindness merging into alexia. In these, as in cases of postgeniculate lesions preservation of the pupillary reflexes is of aid.

The quadrigeminal plate syndrome is characterized by paralysis of upward gaze, akew deviation, and Argyl-Robertson pupils. These phenomena may be traced to a disorder in this part of the optic pathway. Expanding lesions of the type known as "pinealomata" often grow forward into the supra tentorial region, thereby involving some part of the optic tract and giving rise to hemianopaic defects.

LEMILE L. McCOV M.D.

Evans, J N The Scotometry of Retinal Redema. Am J Ophth. 1933 xvi, 417

The author shows by numerous typical charts that, by the use of a small target blind areas of various sizes, shapes, and patterns may be outlined in cases of retinal cedems, and that these blind areas change their shapes with changes in the ordems.

He emphasize that greater care abould be taken in the atudy of central field changes and that the relationship of these changes to vascular lerions and other pathological changes, general or local, should be determined. Thouss D ALLES M.D.

MacMillan J A., and Cone, W V: Solitary Neurofibroms of the Orbit. Arck. Ophik., 1933 2, 51

From a very careful and thorough study of the specimen in the case reported in this article the authors concluded that the tumor was a neurofibroma of the von Recklinghausen type. In the liter ature they were able to find the reports of only five similar tumors.

LEMIR L. MCCOT M D

EAR

Rosenwasser H. and Druss, J G : Zygomatic In fections as a Factor in Otitic Complications. Arch. Otalaryagol., 1933, 2vil, 625

Six cases of infection of the xygoma associated with otitis are reported. In four, the symptoms became evident after mastoidectomy. In one they were present prior to the operation, and in one there was no gross clinical evidence of the condition, the diagnous being made at postmortem examination.

The authors believe that a more definite comprehension of the snatomy of the sygomatic process of the temporal bone will aid the operator in following the disease process into the posterior and anterior roots to the limit and thus enable him free quently to forestill many of the late complications namely malunion, persistent postsurfucilar fistules polidural abscess abacess of the brain, and mening tis.

Kopetzky 8, J : Problems Concerned with Emprems of the Petrous Apez. Arch Otolaryngol 1933 Xviii, 47

Supporation of the petrosal pyramid in pneumatized bones is a complicating lesion of purulent ontis media and occurs in an acute and a chronic form. In the acute form a generalized leptomeningits develops if the condition is not releved. In the chronic form a fistulous tract develops and the pusescapes as a persistent otorrhea meningitis does not necessarily occur and in a few instances final healing results without additional surgical intervention.

The author's technique is advocated only for the drainage of pus from the apex in cases of encapsu lated empyema in pneumatized pyramids without a demonstrable fistula. This technique is adequate because the petrous apex is reached without exposure of the endocranium. It is the author's method of choice because its results are satisfactory it is not disfiguring it permits tapping of the apex in the shortest possible time, and it does not cause injury to the facial cochlear or captold extremy.

GEORGE R. MCAULIFF M D

NOSE AND SINUSES

Hilding, A. Experimental Surgery of the Nose and Sinuses. III Results Following Partial and Complete Removal of the Uning Mucous Membrane from the Frontal Sinus of the Dog Arch Outgrayed, 1933 xvii, 760.

The author states that when the normal frontal sinus of the dog is denuded of mucous membrane and the scalp is sutured over it without drainage, the sums usually fills with scar tissue that obliterates the cavity

In exceptional cases there is partial restitution of the sinus with regeneration of the lining epithelium.

Under some circumstances there is formed a smaller cavity with walls composed of thick, white connective tissue devoid of epithelial covering over which epithelium apparently cannot grow. This connective tissue shows no sign of inflammation even if it is exposed to the air.

Under other conditions epithelium will grow over the heavy scar tissue. In some instances it appears to lie directly on the scar tissue and in other instances on vascular submucosal tissue.

If portions of epithelium are left within the sinus, cysts filled with much form within the obliterating scar [AMPS C BRASWELL, M D

MOUTH

Wangensteen O H., and Randall, O S. Treat ment and Results in Carcinoma of the Lip im J Roesigenol., 1933 XXX, 75

A number of studies have shown that when the submaxillary and submental lymph nodes are routinely removed in early cancer of the lip metastatic involvement is found on microscopic examination in only about 25 per cent of the cases. As compared with cancer of the breast or tongue, carcinoma of the lip is more benign and does not form lymph node metastases early with equal regularity. Never theleas the results of simple V excision and the

complete operation are so striking as to indicate that adequate treatment of the lymph nodes is of importance.

In the authors opinion, palpation and gross examination of the removed nodes are almost as reliable as microscopic examination for the detection

of lymph-node involvement.

of lymph-node involvement.
When the lymph nodes are evidently involved roentgen therapy alone is fuffle. According to the authors experience, the most effective treatment under such circumstances is surgical extirpation of the involved lymph nodes combined with the inter-stitial new of raddum emanations (rold seeds).

In cases in which the excision of the lesion has caused considerable narrowing of the oral opening, the authors have found that a lateral incision on one or both sides is usually sufficient to correct the deformity.

The results of treatment of cancer of the lip compare favorably with those of the treatment of any other mallers now. Failures are due usually to delay

of ademate treatment.

In a series of 130 cases there were 14 deaths, a mortality of 36 per cent. In 16 (307 per cent) death was dee to cancer or a cause associated with the treatment of the lesion. The treatment consisted of surgery supplemented by roentgen or radum irradiation. In the authors opinion surgical removal of the submarillary truph nodes afords the patient with an early lesion more protection than conversation irradiation. Source & Nas. 7 M D

Lund, C. C., and Holton, H. M.: Carcinoma of the Lip: Report of Results of Treatment at the Collis P. Huntington Memorial Hospital from 1918 to 1928. Am J. Resultate: 1033 ET., 50.

In the last twelve years over 11,000 cases of can oer have been seen at the Huntington Memorial Hospital, Boston. In the last four years of the period from 1918 to 1926 there was a tendency to do less radical operations and to treat a larger proportion of the patients surgically

The authors coochide that there is no justification for not considering the pathological grading of tumor as an important aid in the choice of treat ment, but believe that perhaps it should not be streamed as strongly as the dise and duration of the

lesion. Small lesions without deep ulceration or infiltration and without enlargement of the glands of the neck may be safely treated by local treatment alona. They are usually of Grade 1 and of comparatively

short duration.

The best local treatment of small ledons is adequate surgical excision. The authors approve also of adequate irradiation treatment following bloper By "adequate irradiation" they mean doses of from too to 1,000 mc.hrs. of radium with considerable alteration for small lesions and larger doses for larger lesions.

In all other cases up to the limits of reasonably safe operability a submental neck dissection should be done whether the local lesion is treated with

In most cases in which a neck dissection has been done at least 900 r of high-voltage roentgen therapy should be given to each side of the neck and this should be repeated if the glands in the neck are positive for carringma.

Cases of fixed, deep, or large masses in the neck should be treated by irradiation for pulliation

Every case must be studied individually In some instances it may be necessary to give less than the optimum treatment because of the patient sage, the presence of some other disease, or a poor general condition.

Fabrikant M : Report on the Activity of the Surgical Clinic of the Chartov Stomatological Institute (Baricht beber die Taetigkeit der chirur gischen Klinik des Charkov er stomatologischen Institute) Swed Mester 101

During a period of nine months the Charcov Stomatological Institute served 503 in-patients and 2 500 out-patients. The author selects for comment some of the cases treated in the in-patient demartment.

Among the numerous cyats there were 2 which were multilocular and 2 which occupied almost the entire upper jaw. All of the cysts, even those with suppuration, were carefully desired out and then sutured with compression of the mucous membrane flan to the wall of the boay cavity.

Of the 3 patients with chronic sepais of odontogenous origin, I died with the signs of increasing another and a lencocytosis in spite of complete removal of the octeomyelitic focus in the lower jaw and the beginning formation of granulations.

Among the cases which were more difficult from the operative standpoint were 4 in which resetting of the upper jaw was done (in 1 for carcinoma and in 3 for sarcoma) and 3 in which the lower jaw was resected (in 3 for carcinoma and in 1 for sarcoma). Two of the resections of the upper jaw were perceeded by lisation of the extremal carnful fartery.

Eleven patients with true ankylosis of the lover jaw were operated on by the method of Rochet, Schmidt, or Bockenbeim with the interposition of flap of the masseter after osteotomy or resection of the capitellum. In r case mobilization was achieved after ankylosis of twelve years duration following

a severe gunshot injury

In 7 cases of cieft palate operation yielded as excellent anatomical result, but there was no oppor

tunity to give the patients phonetic instruction.

In 16 cases in which a plastic operation was per formed on the jaw there was only 1 failure. The failure was due apparently to the fact that the opera

tion was performed in a single stage.

Of a cases admitted to the clinic with the dispnosts of trigeninal neuralita, abrons osteritis of the
lower law was found in one and the roentgenogram
and the cut surface of the extracted healthy tooth
showed a denticulus in the other,

Of the 46 fractures (some of them multiple), 30 were treated as in-patient cases. As a rule older fractures were not splinted immediately treatment first being given to arrest the osteomyellitic process. Normal postnow was obtained exclusively by means of tubber bands fastened to retention hooks on wire splints on the upper or lover jaw Klugardt's apparatus with moderate rubber traction was used only in a case in which the fragments had grown together in an abnormal position. Consolidation of fracturer was accelerated by thyroidin.

In cases of osteomyelitis (6 of the upper jaw and 54 of the lower jaw) the attempt was made to provide for external escape of the pus. In this way it was possible to save the teeth in 3 sovere cases.

Within a short time the Clinic has become the consultive center for Charkov In the author's opinion every large hospital should have a stoma tological surgical division.

M. Hrsaz (Z)

Bernard R: The Facial Route in Extensive Operations on the Mouth and Oropharyna; Cancerof the Mandible, Floor of the Mouth Tonsil, and Pharyna; (Le décollement des tégument de la face. Vode d'abord dans les grandes opérations d'extrèse sur la bouche et l'oro-pharyna; cancers du maxillaire inférieur cancers du planche de la bouche, cancers de l'amygdale et du pharyna; Prass méd Par, 1935, 3th, 748

In the classical operations on the oropharynx the operative field was approached by way of the neck. This approach has the following disadvantages

- It is indirect and inconvenient.
- 2 The septic buccal cavity communicates with the cellular spaces of the neck.
 - t There is much mutilation of the bone.

In the method described by Bernard the approach to the lesion is much more direct, the spaces of the neck are not opened, and there is often little mutila tion of the face. A vertical incision is made through the lip and chin to meet a transverse incision made along the mandible. Wide exposure of the month is then obtained by dissecting the flap free on each side of the mandible. In some cases total resection of the mandable may be necessary but this is avoided whenever possible. In many cases the surgeon may preserve the function and appearance of the face by limiting the operation to what is described as an "economical resection. In this procedure the bone is only partially resected, usually toward the al veolar margin in the horizontal body of the bone or the anterior portion of the mandibular ramus. If the field of operation is unilateral, the turning back of a single flap of skin from the chin will be sufficient for resection of the mandible on the affected side and will afford a good approach to the tonsil and pha ryngeal wall of that side. Marse W Poole, M D

Gentil F: Cancer of the Tongua (Sobre o cancro da lingua) Arquiro de patel,, 1931 ili 148.

The author reviews the history of the treatment of cancer of the tongue from the days in which sur

gety alone was used through the period of roentgen treatment which proved medicative up to the preent time, when combined surgical and radium treat ment is employed. He discusses the local causes of cancer of the mouth in general and the relations be tween tobacco and syphilis and cancer of the tongue, and emphasizes the importance of buccal and dental hydene, the removal of causes of irrations, and the extirpation of precancerous conditions, particularly leucoplakas, in the prevention of cancer of the mouth and tongue.

and tongue.

Since 1913 he has treated cancer of the tongue by a modification of radium puncture. He makes open ings in the tongue with the radiobistoury for the insertion of the radium tubes. If the tumor is not more than three or four weeks old he applies radium externally by means of a Columbia paste apparatus according to Regaud's technique. If the tumor is older or if its age and the degree of involvement of the glands cannot be determined, he routinely removes the suprahyold cervical glands on one or both sides. He states that cancers of the posterior two-thirds of the tongue produce early bilateral in volvement of the glands. Extirpation of the cellular tissue and glands does not exclude postoperative cervical radium therapy.

There is no form of cancer capable of greater variations than cancer of the tongue. The lesion may develop toward the floor of the mouth or follow the lymphatics and invade the jaw. In either case the tumor may be treated by radium puncture and the glands treated by the external application of radium or surgical removal depending on the stage of their involvement. If the cancer is so far advanced that only palliative measures are possible the lingual or external carotid arteries may be ligated and as much of the tumor mass as possible removed with the radiobistoury. Sometimes roentigen therapy is employed as palliative treatment but it is not very effective.

In the removal of the glands it is best to avoid the formation of a communication between the cervical and buccal fields. If enlargement of the field of operation is necessary it is best to make a horizontal section of the cheek from one of the commissures. The steps of the operation are shown in Illustrations. The author prefers rectal or intravenous anesthesia even if it must be supplemented with local ameshesia.

AUDEXT GOSS MORGAN MESTRANCES MORGAN AND

Talini P C.: The Technique of Radium Treat ment of Carcinoma of the Tongue (La tecnica cuneterarica del carcinoma della lingua) Radial mai 1933, xx, 615

The author describes the methods of applying radium therapy in cases of cancer of the tongue which are used in the Radiological Section of the National Institute Victor Emanuel III for the Study and Treatment of Cancer at Milan, Ordinarily the treatment is divided into the following three stages (r) fixation of needles and small radioactive tubes in and around the tumor (a) surgical

removal of the regional lymph slands and (a) irradiation through the skin of the regional lym shalle territory by means of an amaratus monified

of Columbia paste Also discussed are the seneral principles of radium nuncture, including the selection and stage distribution of the predict or tubes the technique and the duration of the treatment, the plans med in different cases according to the stage of development and the localization of the tumor (bown also in illustrations and postpoerative irradiation with the Columbia neste appearatus, including the technique the con struction of the ameratus, the donner and the duration of the treatment in different cases

ALDELY GOSS MOROLY, M.D.

DHADYWY

Contro Taylor C : Malianant Disease of the Gropherens, Including the Fauces, J Len ed & One tott sivil int

For immore of the hypopharyny amenable to sursical removal the old fashioned knife may still be need but for the extimation or sterilization of nel many malienant people ms of the oronharrony the modes of attack now employed are disthermy and various forms of irra liation. The results of radium therapy have caused crudely mutilating operations to be looked upon with an increasingly critical eye. The surgery of cancer of the propharyny remures much ludgment for the best results the surgeon must choose the method most appropriate for the

merticular case The author discusses in detail the different forms of rancer of the oropharyax, lescribes the operations of approach for convenient extirpation of the primany turnor and reviews the methods and results of Grosce R. McArure M.D. other surgeons.

Condon Taylor (Patterson, No. Mabin, J., Van Hen Hittenberg In Lawlindia II. C. and Others Discussion on Malignant Discuss of the Orophar) as Including the Fauces. Fra-AR LIFE ALOT LAND LALL ME TANK AND

then H Tayton believes that for malignant newdame of the myharrns and fauces distherne and irraliation bould be the modes of attach. He atates that the results of ta flum therapy have made us ha k with an im scaningly critical eve upon crudely mutilating symiations. The surgery of cancer in this region to price interests as each case presents an advantation even it in the case of smill likely at the state of the sta

cauca of or advantageal car from with lulast in actor test cause he shows an embother was of the tumor and gland heating ap a seck A 10 injuration ! incremary, he just motor so repetent moved of the tunuar a draw

MAI IN LAN DEN MITTER L'ANTERINE stated that it is a said to describe of the trendle and had need existing the court of the court by external triadfattion

metastases of enithelial cancers are more redstant then the neimary lesions, it is advisable to resents when nomible and irradiate the whole region dissected later. The percentage of cures is small. The results of irradiation may sometimes be improved he the was of liveld, extracts of brain, themes hore marrow and soleen. Another agent used is a small amount of barrier by mouth.

THOTTER said that he favors median pharymentomy for the radical cure of growths which are stretted fairly far down the pharvax as it spares the ratios!

mutilation

HARMER stated that in cases of rapidly enough surcomata sursery and disthermy are attended by grave risks, whereas the tumors remond and to irradiation. In early carcinoma of the lio and anterior portion of the tongue the growths generally disappear if they are surrounded with radius. In this region surgery also gives good results. In cases of deep growths irradiation is given externally and also by interstitial irradiation.

DICKIE reported that he still performs a seriors and mutilating operation as his experience with

other methods has been disappointing. WATT stated that the results are most anesticac tory in cases of postpoerative recurrence. In such cases surpery or radium irradiation or both are

indicated. Mckeyers reported that he had excled eleven primary growths by disthermy with very good #

milte Josson died twenty-eight cases of malignast disease of the pharrns. In twenty-two, the lesion was in the oropharms. The treatment consisted of duthermy followed in some cases by imadiation

with the \-rays or radon. Grover & M. John M.D.

Patterson, X.1 Malignant Discore of the Ocepharynx, Including the Faces. J Laryage. FOLK TOTE ENTE, 13

The anthor states that ustil comparatively recently the repuls of treament of malignant disease of the orophyses have send, here extremely poor, but since the introduction of disthermy many soc central result have been obtained. With regard to radium irra him he state that while an almost miracolors are mired by a recurrence ner place it is free distion. Moreover the lower hara in as is always associated with the

surrounding times. On account of the at of work that is being done to improve m and \ ray treatment, Patterson

able to hope that in future entirely be distion from units of rad extremely being ob-

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Patterson holds the view that if there is a good chance of removing the tumor completely without undue risk endothermy excision should be carried out and in selected cases combined with drastic surgical removal of the gland-bearing areas. Probably in the majority of cases irradiation should fol low operation. Before the use of endothermy the usual precautions should be taken to render the mouth as clean as possible. To insure eradication, the healthy tissues must be severed at a sufficient distance from the growth. After removal of the tumor the resulting cavity should be treated with a button electrode. Adequate exposure can be obtained in every case by the use of the Davis gag or suspension apparatus. In Patterson's opinion, splitting of the cheek does not improve access to the tumor, and such a procedure as removal of a por tion of the lower jaw which increases the operative risk and leads to deformity is necessary only in ex ceptional cases.

Operation may be contra indicated by the size or situation of the primary tumor the age or general condition of the patient, or the presence of glandular masses which cannot be removed. The ultimate outlook depends upon the presence or absence of metastases. Occasionally, however a sufficiently thorough operation will be successful even when there are massive metastases in the glands.

TAMES C BRANNELL, M.D.

NECK

Turton, P. H. J: The Distribution of Simple Goi ter in Derbyshire Proc Roy Soc Med Lond., 1933 1xvi 1223

Following a discussion of the physical character altitude, temperature, rainfall, dramage, soil and source and nature of the water supply of Derby shire, the author reports the results of an investiga tion of the incidence of the different types of simple goiter with regard to the region, minerals in the soil. iodine content of the water and diet and education of the subjects. He concludes that the endemic golter of Derbyshire is not due to a single agent. Impure and unprotected sources of water supply leading to a possibly specific gastro-intestinal infection are important factors in the production of the disease. The chief faults found in the diets of the children were a frequent total absence of fresh vegetables and fruits the substitution of margarine or vitamine poor fats for butter and insufficiency of meat and milk. There was no evidence that iodine insufficiency was a factor in the causation of the gotter Turton believes that attention to public and personal hygiene, to the principles of nutrition, and to the mineral content and purity of the water supply have all played a part in abolishing or diminishing the frequency of 'Derby neck.'

M. HERBERT BARKER, M D

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS; CRANIAL

Dandy W E.: Physiological Studies Following Extirpation of the Right Carebral Hernisphere in Man. Bull. John Rophin Hosp Bult. 1933, 179, 17.

Physiological studies were made on three patients following removal of the greater portion of the right corebral bemisphere.

The first patient was a preacher thirty two years of age who had a large subcortical tumor involving the right frontal, parietal, and temporal lobes. Seven weeks after exposure of the tumor and decompression, the right cerebral hemisphere with the exception of an area of the occipital lobe was sub-totally resected, any general brain those being removed. The postoperative curser was uncernitul. The patient in Death occurred two years are the roughly large and the postoperative from the large and the roughly large and the postoperative from a recurrence proposal to the post of the patient.

The second patient was a woman twenty four years old who had a deep infiltrating tumor in the fare and arm center of the right cerebral bemisnhere. Following elevation of the frontal lobe and double dipping of the carotid artery alonged the optic nerve, the anterior cerebral, middle cerebral. and posterior communicating arteries were doubly clinned and divided. Thereupon the volume of the cerebral hemisphere was immediately markedly reduced. Three hundred and seventy five grams of brain tissue were removed. Following continuous drainage, instituted on the third postoperative day in the frontal region, infection developed. The in fection became quite purplent and drainage through an incluion with removal of the bone flap became necessary The infection could never be eradicated. Death occurred six months siter the operation. The patient's mentality was apparently fairly good but at times she was irritable and uncooperative.

The third patient was a colored man from whom 5A; gm of the right cerebral hemisphere containing a tumor were removed. Hemispitis developed on the second day and death occurred ten days later. Con versation carried on after the operation indicated

normal mental function.

The author discusses the retention of mental function after such radical resections. One of the most tion after such radical resections. One of the most interesting findings was the preservation of the function of the cranial nerves. Hemisnopsia was complete. The function of the trigeminal and facial nerves was only slightly altered. In one of the cases reported sensation was slightly diminished over the trigeminal distribution. The motor power of the facial nerve was definitely diminished, but remark ably well preserved. Iver width movement of the left leg was preserved, and contractures did not develop. The faccidity of the extensities was nest surprising. The preservation of sensation in the post of the preservation of sensation in the post of the preservation of the

Hirach O: Nasal Operations for Tumor of the Hypophysis (Die nasalen Operationen der Hypoph yantumoren) Kila. Honatiel f August 1931 texis. 182

The author reviews 337 mass loperations on the hypophysis which were performed in the case of 333 patients. Of 375 patients operated upon in the period from 100 to 1933 o died the operation moral to 1933 o died the operation was carrived the operation, and operation and survived the operation, 75 died in the first three years. Of these, 15 died of an incertable tumor 3 of secondary intercandal operation; of apoplety 3 of a cerebrospiral final fixtual; 10 hemorrhage 1 of grippe and 3 of an unknown cause. Two patients died after three and a balf vers 3 after stry years (1 of these from remained); 3 after ten years and 1 after verse see all littles and the strength of the patients are still littles.

Of the figure of the control of the

The prevention of recurrences demands after treatment with radium. The figures cited show the results of combined operative and radium treatment.

Seventy per cent of the patients operated on from four to thirteen years ago are clinically cured and are excellent examples of improvement and

preservation of vision following operation. In most of the cases reviewed the operation was performed because of progressive disturbances of vision, and in a few because of accomergly with unbearable headaches. The method described is suitable for cysick and intrasellar solid tumors. Malignant and very large tumors which have broken through into the sphemoid sinues are not

treated successfully by any method. The author

reports the case of a woman whose vision was fair twenty years after operation although it was not good at the time of the intervention. POLYA (Z)

Smith A. B., Lambert, V. F. and Wallace, H. L.: Paralysis of the Recurrent Laryngeal Nerve. A Survey of 235 Cases. Edinbergs M. J., 1933, 21, 344.

The authors report a study of 235 cases of paral vals of one or both recurrent laryngeal nerves. Cases showing intrinsic pathological changes in the larynx, such as tuberculous or specific ulcerations, were excluded. The ratio of males to females was 2 2 I The causes of the paralysis varied greatly. In 23 cases no definite cause could be found. In 7 cases the condition followed exposure to cold, and in 43 the cardiovascular system was apparently the causa. tive agent. In 5 of the latter there was a definite cardiac lesion without involvement of the aorta. The authors suggest the possibility that dilatation of the left auncle from mitral stenosis might produce paralysis of the left recurrent laryngeal nerve. In 23 of the cases reviewed, the majority those of males. the paralysis was the result of pulmonary tubercu loris. Of 30 cases in which it was due to golter trauma at operation was a factor in 12 The incidence of the condition was highest in cases of tumor. In 18 cases the cause was enlarged glands in the neck. and in 15 cases, a disease of the nervous system such as bulbar paralysis.

In 23 (9.8 per cent) of the cases the paralysis was bilateral. The left side was involved much more frequently than the right except in cases of goiter, in which the right and left nerves were affected

with equal frequency

The authors discuss Semons law according to which the cord is in the median has position in the early stages of paralysis but moves outward and occupies the endayeric position when the paralysis becomes complete. From an investigation of the position of the cord in 179 of the cases reviewed, the authors conclude that the endayerse position is assumed by paralysed cords in the majority of cases and that, irrespective of its position, a paralysed vocal cord may completely recover its function, especially when no cause for the paralysis can be discovered. The aphonia resulting from permanent paralysis of a vocal cord will ultimately show con siderable improvement, and complete recovery of the volce may occur within a very:

ROBERT ZOLLINGER, M.D.

SPINAL CORD AND ITS COVERINGS

Wertheimer P., and Dechaume, J t Acute and Chronic Epiduritis (Les épidurites algues et chroniques) Lyon chir., 1933 XX, 139.

The epidural space between the dura mater of the spinal cord and the wall of the vertebral canal may become the site of acute or chronic inflammation. The inflammation may extend to it by contiguity from a neighboring infection or may be due to a met

astatic abscess. The authors report two cases one acute and the other chronic.

In the first case, that of a woman forty-eight years of age the condition developed following the spon tanceus opening of an anthrax infection of the neck. The next night the patient complained of intense pain in the left arm, and the following morning showed incomplete parelysis of the legs. The incomplete paralysis was followed by complete flaced parelysis, and death occurred on the fifth day Autopsy showed a focus of inflammation about 2 cm. long in the anterior epidural space at the lower end of the cervical cond.

These inflammations generally occur in the posterior space and are apt to present signs of either meningitis or transverse myelitis. In spite of the difficulties in diagnosis, acute purulent epiduritis may be diagnosed on the basis of its sudden begin ning the intensity of the pain the predominance of paralysis of the lower limbs the rapidly progres arve character of the paraplegia, and the absence of cerebral symptoms. As a rule the interval between the beginning of pain and the beginning of paralysis is longer than in the case herewith reported. The advisability of lumbar puncture when epiduritis is suspected is questionable as there is danger of carrying the infection into the subdural space. In some cases surgical decompression has yielded good results. It was not attempted in the authors case because the diagnosis was not definite. The course of the condition was so rapid that it is doubtful whether such treatment would have been successful.

The second case reported by the authors was one of chronic tumor like epuduritis in a workman twenty four years of age who was admitted to hopital for paresis of the right leg and left arm. The condition had begun with intense pain in the left arm about three months elapsed before the paralysis developed. Lipidodi eramination suggested a tumor at the level of the seventh cervical vertebra. Operation disclosed a chronic tumor-like epiduritis. The tissue removed was an ordinary inflammatory gramulation tissue with no signs of tumor cells or giant cells. Guinea-np inoculation was negative.

In neither of the cases reported was there a history

or evidence of syphilus.

While simple laminectomy has been successful in some cases, the pseudo-tumor should be removed if possible. Roentgen treatment has proved effective in a few cases.

August Goes Monaca M.D.

MISCELLANEOUS

Punsepp L.: The Development of Surgical Neuropathology During the Last Ten Years According to the Data of the Nervous Disease Clinte of the Tartu University at Dorpat (Ucber die Entwicklung der chirurgischen Neuropathologie wachrend der letten to Jahre, nach den Daten der Nervenklicht der Universitaet Tartu Dorpat) Folmenschaft auf 22 21 05

In the Nervous Disease Clinic of the University of Dorpat surgical methods of treatment are employed with considerable frequency. The advances which have been made during the last ten years are sum

In spatic paralyses, the posterior nerve root is no longer divided according to the method of Foerster, but is demostrated on freely exposed peripheral nerves by attimulation of the sensory portion and then resected.

In lesions of the brachial plexus," tenotomy of

tion of the first rib

In neuralities, injections of alcohol are employed

extensively The author uses procture of the spinal subarachnold space at any level desired. The needle is 1 mm, thick. In the cervical and the humber portions of the spine the direction of the needle is vertical to the skin, but in the thoracic portion the needle is introduced obliquely from below upward. The death of the puncture is from a to 5 cm, in the cervical portion, from 5 to 8 cm. in the thoracic portion, and from 6 to 7 cm. in the lumber portion. The back is curved as much as possible. The needle is introduced slowly and carefully. When the flow is deficient the pressure of the spinal fluid is increased by pressure on the abdomen or compression. of the furniar ven in order to remove obstructing particles of fat from the cannula. If spinal fluid is obtained below the site of obstruction of the lipiodol. the presence of circumscribed meningitis is indicated. In cases of tumor particles of the neoplasm may be aspirated. Therefore to ascertain the necessary depth of puncture it is advisable to determine this previously by exploratory nuncture below the suspected border of the immor The author has carried out this 'stage nuncture twenty eight times without complications. Its field of indications includes (1) the differential diagnosis between cysts, circumscribed meningitis, tumors, and other obstructions to the circulation of spinal fluid (a) the evacuation of cysts and (a) the drug therapy of luctic processes

The author also practices myelopuncture (thirty-two cases without complications). He introduces a 5, mm needle through the spinal puncture canculation when it penetrates the spinal cord the flow of fluid ceases and the patient feels a severe pain in one or both legs, which soon crease. From the character and pressure of the fluids obtained a differential disposit can be made of intramedullary spaces. When the pressure in such spaces is excreasive the procedure has a therapeutic effect. By the introduction of from o.s. to o.g. c.m. of hybridol a space may be considered to the contraction of from o.s. to o.g. c.m. of hybridol a space may be considered to the contraction of from o.s. to o.g. c.m. of hybridol a space may be considered to the contraction of from o.s. to o.g. c.m. of hybridol a space may be considered to the contraction of from o.s. to o.g. c.m. of hybridol a space may be considered to the contraction of from o.s. to o.g. c.m. of hybridol a space may be considered to the contraction of the cont

ten to twenty minutes.

Endomyelography was done in three cases. The author attributes the introduction of the operative treatment of syringomyelia to his clinic and praises the procedure. Before the intervention he silvary determines the borders of the space by means of endomyelography.

In the study of spinal cord tumors, Prusepp has found that there is an arachnolditis osificans which produces symptoms of compression and may be

cared operatively

He has learned to recognize also a thickening of the ligamentum flavum between the fifth lumbar vertebra and the sacrum which produces bladder and restal disturbances (three cases) especially in motor car drivers, by canking compression of the caoda equina. These disturbances can be cured by removing the band.

In a case of parkinsonism the author divided the posterior columns of the spinal cord with good

results.

In tabetic crises, he has obtained good results from partial chordatomy of the tracts to the thorn and the abdomen, as determined by stimulatios, through a longitudinal incision in the spinal cord. Www. (2)

SURGERY OF THE CHEST

CHEST WALL AND BREAST

Troveru, S. The Bleeding Breast (La mamelle salgnante) Rev de chir Par., 1933 lti, 313

Bleeding from the breast was formerly considered indicative of subjacent malignancy, but is now known to be caused by benign as well as ma lignant conditions. It is a relatively rare phenomenon, It occurs most frequently after the age of forty years and usually in females particularly women who have borne several childrem.

The initiation or aggravation of the hamorrhage during the menstrual periods is explained by the congestion of the breast which occurs during men

struation.

Two groups of cases of bloody discharge from the nipple are recognized. The first group are the cases in which there is no underlying anatomic opathological lesion of the mammary gland. Among these are cases of himmorrhage of the breast of hysterical origin, those of breast bleeding supplementary to menstruation, those due to local or general vascular diseases those of breast hemorrhage occurring in the presence of a blood dyserasia, and those of bleeding from the breast in the newborn. In general, bleeding of this type is infrequent. It is due to a functional condition rather than an organic breast lesion and does not require surgical intervention.

The second group of cases are those of inflamma tory benign and malignant lesions of the breast. Chronic mastitis occasionally gives ruse to a san guineous discharge. Of the benign tumors causing bleeding from the nipple, the most common are intracanalicular adenomata. These have a particular tendency to cause hemorrhage on account of their structure and their usual location within the larger ducts. Other benign tumors causing hemorrhage from the nipple are papillomata, adenofibromata, hæmangiomata, and lymphangiomata. Carcinoma of the breast may be associated with a bloody discharge if it develops primarily within the ducts. invades the ducts secondarily or is of cystic form. Dystrophies of the mammary glands, such as polycystic disease, may also cause a bloody discharge.

The causes in this group of cases comprise the lections frequently encountered in practice. The bleeding occurs just before the menopause and is to definite lections of the breast which may be inflammatory, neoplastic, or dystrophic and either benign or malignant. Its frequency depends upon the location and structure of the lesion. As a rule dyend the property of the restore of the restore of the restore of the restore of the restore of the restore of the restore of the restore of the lesion.

LEO M ZHOGERMAN M.D.

Lee, B J Pack, G T and Scharnagel, I Sweat Gland Cancer of the Breast. Surg Gynce. 5 Obs. 1933 lvl 975

This article is summarized as follows human breast develops as a modified apocrine sweat gland. Apparent sweat-gland tubules and cysts occur in the normal adult breast, where they anastomose with the interlobular lacteal ducts. The characteristic features which distinguish the mammary sweat-gland tubules from the lacteal ducts are constant cosmophilia of the cytoplasm, an inner layer of high columnar cells the occasional presence of myo-epithelial cells surrounding the tubules, and the tendency to form intratubular and intracvatic papillary tuits. The anatomical and staining characteristics of these cells persist through all the transitional phases of normal sweat-gland tubules, cysts intracystic papillomsta, adenomata, and carcinomata.

'Evidence is presented to substantiate the theory that sweat-gland cardinomats of the breast may develop from pre-gristing sweat-gland tubules, cysts, and papillary adenomata. The various stages in this transition have been seen. Except for the peculiar properties of sweat-gland structures in the breast which we have enumerated the sweat-gland cardinomats of the breast have much the same structure as other mammary cancers, e.g. we find that the bulky adenocarcinomata the comedocar conomata, the papillary, intraductal and intracystic cardinomats, the medullary cardinomata, the cardinomat are represented in this group

Sweat gland cancers of the breast occur more frequently in swarthy brunettes whose skin has large pores and an oily coarse texture. Their regional distribution is mostly on the periphery of the breast particularly in the azillary tail and submammary fold. The frequency of pain, akin adherence, and ulceration are significant clinical features of sweat gland cancer of the breast. The degree of malignancy and the prognosis following treatment is practically the same for sweat gland cancers of the breast as it is for the general group of mammary cancers.

ELIZABETH CRANSTON

Hernaman Johnson F Metastases in Breast Cancer: The Problem of Prevention. Brit J Rodiol. 1933 vi 468

In every case of palpable tumor in the breast there is a possibility of metastasis, and in most cases of cancer of the breast metastasis is the ultimate cause of death. The only hope of substantially improving present-day results in breast cancer is to discover some means of combatting metastatic invasion.

Metastases arise from unremoved or undestroyed portions of the primary lesion or are already present when the local condition is dealt with. If local mallenant remainders are the amurce of metastages we may hope to check some of them and destroy others by administering menteen irradiation in suitable doses over a very wide field at intervals over a considerable period of time after an initial attempt to cure by surgery or radium implantation.

The beneficial action of such treatment may be due. not to direct injury of the malignant cells, but to the production of a response in the organism which renders it able to deal with the morbid condition. Other arenta, notably ultraviolet light, may also he used to advantage because of their constitutional effects Appear Harron M.D.

TRACHES LINGS AND PLETRA

Hilman A.: Streptothricosis of the Lungs and Pleura and its Surgical Treatment (Zur Frage ueber Streptotrichose der Lungen und der Reura and libre chirurgische Behandlung) Ves chr Arch 1018. xxvii, 61

Although the streptothrix is closely related to the actinonyree, it presents several characteristics from the morphologicobotanical point of view as well as in the clinical picture it produces by which it can be differentiated from the latter. There are numerous forms (over 100) of streptothrix, but only the pathogenic varieties of the organism are considered between

The pathogenic varieties are excountered less frequently than the saprophytic varieties. When the streptchrist is found in the spetum, seeks, or pas the determination of its type is of great importance. Pathogenic varieties of streptchiris grow better at body temperature than at room tempers ture, and on intravenous or intraperitoscal injection into control animals produce a milliary pacodo-tuberculous spread in the peritonnal cavity. Moreover it must be borns in mind that the streptchiris in frequently associated with other disease processes (fullwormless betweenliers, and the streptchiris in frequently associated with other disease processes.

The streptolistic is a true pus-producing organism, and on entering the lungs produces brounchopseu monic lock which above a marked tendency toward necrosis and the formation of cavifies (bronchiec tases, cavidles, abscesses). Frequently an associated supportative plentily is found. The pass or sputum is tough, thick, and chocolate colored and contributed the masses of broken-down grammations and of the grammatic contributions of the producing the contribution of the strength of the strength of the contribution of the strength of the st

In the treatment the pus cavities should be opened as widely as possible by rib resection and incision of the abscrss. Attention is called to the fact that the lungs often show multiple pus foci. Therrifors the rib resection must not be too conservative. Operative treatment should be supple

The prognosis is always doubtful, and in advanced cases is poor

The author reports 2 cases. One was that of a man twenty-five years old who was operated upon for a streptohircoide abscess of the right lung and was released from the sanatorium in a serious condition. The other was that of an age which died from the condition.

Reals: Comparative Clinical Researches on the Reaction of Sedimentation of the Expitrocytes and on the Leucocytic Formula in Tubertu Iodis (Recharches cliniques comparatives are la réaction de sédimentation des globules roque et sur la formule leucocytaire dans la tuberculose) Arch. self chêr de P per neight, 1933 viffl. Active de l'active
Following a discussion of the theory and technicopies of sedimentation of the erythrocytes and the determination of the leucocytic formula, the suttor reports the results of 60s sedimentation terts and \$35 morphological examinations of the blood which were carried out in series in the cases of 184 patients with tuberquiosis.

The rate of sedimentation of the crythrocytes and the leucocytle formula controlled in series, although not specific reactions, supplement each other and render more certain the diagnosis and proposed of the spuris characteristic of the evolution of inherenticals.

Sedimentation of the crythrocytes is especially the reaction of the scute phase of the evolutionary spurt, and the harmogram discloses the reactions of the final period and the interval phase.

In auditoria situated at high silitudes the hemogram is of perticular value to supplement the fadings of sedimentation modified by the hyperglobalis of silitude. This is true especially toward the end of the evolutionary sourt.

The rate of seidmentation shows pathological values especially in the emodate phase of leafons which tend toward the normal in the industries phase. In the crudative phase the theorem is changed toward neutrophilis (with almost critically phase in the changed toward by passes the changed toward by passes in changed toward by passes in changed toward by passes in the changed toward by passes in the changed toward by passes in the changes. The different types of cavilles reflect rather the condition of the pericavitary tissue.

The two tents are of only slight importance in

the absolute prognosis of tuberculosis, but are of considerable importance in the treatment of the condition. First M. Saracourz M.D.

Decker H. R.: The Results of Phrenic Nerve Operations in 222 Cases; With a Discussion of the Technique of the Operations. J. Tierack Sw1 1935 B, 538.

The author reports the results of 500 phrenic nerve avulsions and 52 phrenic nerve cruthes per formed in the period between July 1927 and March, 1033 Phrenic nerve avulsion was done 181 times for pulmonary tuberculosis and 19 times for

bronchiectasis.

As treatment for pulmonary tuberculoris, phrenic paralysis was induced in cases of moderately and far advanced disease, both unflateral and bilateral with or without cavitation, and regardless of the location of the lesson in the lung. It was not induced for minimal lesions nor in acute caseous, febrile cases. The primary objective was to secure collapse of the lung and the secondary objective to secure closure of the cavities.

Of the patients treated by phrenic avulsion, slightly fewer than one third (28 7 per cent) are well and working over one third (37 per cent) show improvement 13 3 per cent have not been benefited and 21 per cent are dead. The conclusions as to the present status of the surviving patients are conservative. In no matance was death directly attributable to the operation and in no instance was the phrenic interruption followed by an unfavorable course so closely that the disturbances could be attributed to the operation.

When phrenic avulsion was combined with arti ficial pneumothorax or thoracoplasty maximal collapse of the lung being obtained, the incidence of recovery was higher The frequency of favorable results was found to be in direct proportion to the rise of the disphragm. Therefore it appears that the degree of collapse is of more importance in healing than the cessation of the movement of the

diaphragm.

Of 56 cases in which phrenic avulsion was done alone with the special objective of closing a sizable cavity complete obliteration took place in 13 (23 2 per cent) and partial closure in 27 (48 2 per cent) In 16 (16 6 per cent) no effect was observed and in a of these the cavity subsequently became larger The sputum was decreased in 70 per cent of the cases. In 25 per cent it became negative within three months, and in 40 per cent it became negative within a year Cough was decreased in 67 per cent of the cases, and haemorrhage was

stopped in 55 5 per cent. The author believes that temporary crushing of the phrenic nerve as a trial procedure is indicated in (1) extensive bilateral disease, (2) bilateral disease with predominance on 1 aide, and (3) more or less acute spreading unllateral disease with the likelihood of involvement of the other lung. The paralysis of the diaphragm will continue for at least six months if the nerve is crushed for 0.5 cm. of its length, and for a considerably longer period of time if a greater portion of the nerve is crushed.

In the author's opinion a trial of phrenic paralysis is worth while in cases of broughlectasis before a serious operation such as lobectomy or thoracoplasty is undertaken.

The anatomy of the phrenic nerve is discussed and the technique of phrenic nerve avulsion and crushing is described. EARL O LATIMER, M.D.

Moore, R. L. and Cochran H W: The Effects of Closed Pneumotherax, Partial Occlusion of One Primary Bronchus, Phrenicectomy and Respiration of Nitrogen by One Ling on Pulmonary Expansion and the Minute Volume of Blood Flowing Through the Lungs. J Thoracic Surg 1033 II, 468

In a series of anaisthetized dogs a separate airway for each lung was provided by the use of a specially devised double-barreled cannula and individual respi ratory tracings were made. From the records obtained the tidal air and oxygen absorption of each lung were measured. In addition estimations of the oxygen content of the arterial mixed venous, and aërated blood were made and the volume of blood passing through the lungs per minute was estimated according to the principle of Fick. Measurements of cardiac output and tidal air-total and dividedwere made before and after partial occlusion of one respiratory airway before and after division or avulsion of one or both phrenic nerves and before and after the respiration of nitrogen by one lung The changes in cardiac output and tidal air which accompanied these procedures were compared with those observed after comparable intervals of time in a senes of dogs similarly anasthetized and pre pared. The findings are summarized as follows

I The changes in cardiac output in the prelim inary or control experiments were slight, varying from +8 3 to -13 3 per cent after periods ranging from forty five to seventy-aix minutes. The changes

in the tidal air were also insignificant.

2 Following the production of a unilateral closed pneumothorax, a reduction in cardiac output was observed in every experiment. The decrease ranged from 21 1 to 50 5 per cent. After the introduction of large amounts of air into either pleural cavity the total tidal air likewise was always decreased and in every instance the percentage decrease was greater on the left side. The decrease in cardiac out put was not proportional to the size of the meumothorax or the decrease in tidal air

3 After partial occlusion of one respiratory air way the tidal air of the occluded lung decreased between 74.9 and 87 I per cent and that of the un occluded lung increased between I 8 and 178 5 per cent. In five of six experiments the total tidal air decreased from 6 2 to 28 0 per cent. In the other experiment there was an increase of 31 1 per cent. The cardiac output decreased in four of the five in stances in which the total volume of tidal air decreased. An increase was noted in one experiment in which there was also an increase in the total volume of tidal air

4. Unilateral phrenicectomy was followed by insignificant increases in the tidal air in two experi ments and by an increase of 52 8 per cent in a third. Bilateral phrenicectomy in two experiments resulted in decreases of 85 and 19.4 per cent. In four of these experiments the cardiac output decreased from 7 5 to 56 6 per cent. In one experiment the cardiac output increased 24.3 per cent.

5. Following the respiration of nitrogen by one stances. The fact is total as occurred in four instances. The fact is computed exercised in the offer experiments (e.g., e.g., and e.g., cert) for the experiments (e.g., e.g., and e.g., cert) for noe instance the change was indignificant, being 16 per cent. In the fifth, an increase of 114 per cent was probably an error.

6 A reduction in the tidal air of a lung was not necessarily accompanied by a significant change in the proportion of oxygen which it absorbed nor in the percentage oxygen saturation of the arterial blood. This was evident in the control periods of several of the experiments in one of the preumonters experiments, in three of the partial occlusion experiments, in four of the phreuicectomy experiments are one of the prival contains an experiments.

ments, and in time results the authors conclude that, in dogs, a disturbance of the mechanics of respiration caused by the production of a unflateral closed peramothema, by partial or complete occlusion of one primary bronchus, by unflateral or blateral phrenicectomy, or by the respiration of altrogen by one lung is followed in most cases by a significant decrease in the minute volume of blood pasting through the hogs. The tidal air of one lung may be markedly decreased—as much as 8p per cert without a thursting of blood to the opposite side.

SAMPEL KARDE MLD

Costedont, A. Cancerous Lymphangitis of the Lung, Suffocating Form (La lymphangite exactresse des pomous à forme suffocants) Press and Par 033 3E, 745

Cancerous lymphangitis of the lung of the suffocating form was first described by Raynaud in 1874, but Andral and others had mentioned a similar condition under different names prior to that time. Costrobat has been able to find only seventeen references to the disease in the literature.

Most of the subjects are between thirty five and forty years of see and nearly all of them have had a cancer of the atomach with symptoms dating back some time. In a case reported by the author the patient had been subjected to an operation eight years previously for cancer in the project region. In two of the cases collected from the literature there had been a cancer of the breast. Often the primary focus in the stomach is unrecognized until the pulmary to the case of the case of the primary focus in the stomach is unrecognized until the pulmary to the case of the case of the primary to the case of the primary to the case of the cas

The produces a symptoms of invastoe of the long are nor characteristic as they comain merely of a rapid loss of weight, wakness, and loss of appetite. They rarely that more than four or five weeks. At the end of that time the characteristic symptoms of palmonary involvement make their appearance. One of the octatranding symptoms is rapidly increasing dyspace. The respiratory rate increases and may be over forty per minute. Cough is present without much expectedition. Occasionally there is slight homographs. The beaut rate is increased (ray to too) and the blood is pressure low. As a rule the temperature is not elevated. Physical examination of the lung often reveals a tensency respiratory mormur with scattered ourse tikes. Death may occur within a few days after the development of the dyspurse or the patient may live as long as a month. Death usually occurs suddenly in a dyspectic partners.

paroxysm.

A ray caramination shows that the pulmonary is soon are more grave and more extensive than is evident from the physical examination. Viewed through the fluorescope, the lungs abow a diffuse loss of transparency. In a good plate the lung field is sent to be filled with interlecting lines suggesting the appearance of a fine screen. Where these lines (lymph vessels) cross there are points of added density which may be eatily mixture for military density which may be eatily mixture for military

The essential pathological changes in the imp are distention of the lymphatic vessels and infiltration of the lung times by cancerous cell. The lung fisse is abnormally firm cutting with resistance, but set close will focult upon water. The lungs are increased in weight and so voluminous that they entirely cover the heart. On histological examination the tymphatic vessels are found distended by large cancer cells involvement of the lymph vessels of the viscent pleurs may lead to finitions deposits or adhesions. The filtus glands are freepontily the site of metastance, but the liver spleen, kidneys suprarenals, vertabre and perfections are ready involved.

The condition must be differentiated from metastatic carcinomatous masses and tuberculous. Metastatic carcinomatous masses are distinguished by their size and their relatively slow progression. Tuberculosis may be distinguished by the temperature curve and the bacteriological and contigo-

closted findings.

The two possible routes for invasion of the lung are the blood stream, and the lymphatic character. In the author's opinion the invasion occurs by way of the lymphatics.

Massw W Procz. M.D.

Loktionov O: Operative Treatment of Purulent Picurisy (Za operativen Behandbag oldiger Picuritiden) Seed, Vesc. Gen., 1949 vt. 135.

Of to cases of pumlent pleurisy in which puncture of the pleural cavity was done, complete recovery resulted in only s Open drainage was also tried is a series of case, but was found to have many disadvantages such as open persumothorax, contrain writing of the bandages with pea, and the necrisity for frequent changing of the dressings. The operative treatment of pumlent pleurisy by the consequence of the pumper of which is the contrained on the contrained of the contrained of the consequence of the contrained of the contrained of the contrained on the contrained of the contrained of the contrained on the contrained of the contrained of the contrained on the contrained of the contrained of the contrained of the contrained on the contrained of the contrained of the contrained of the contrained of the contrained of the contrained of the contrained of the contrained on the contrained of the con

relatively good results.

The author reviews 120 cases of purulent pleurisy treated during the period from 1913 to 1912. Eighty two of the patients were men and 5% ever women. The pleurisy occurred on the left rife hos cases, on the right side in 52 and no both sides in 5 in 417 per cent of the cases the cuse was meanments in 30 per cent the condition was as

idiopathic pleurisy, in 75 per cent it was due to tuberculosis and in 67 per cent it was due to injuries. In 105 cases there was an acute empyema and in 15 a chronic empyema.

Twenty three patients were completely cured. Sixty-two were considerably benefited and discharged to the out-patient department with a healing fistula. Seven were not benefited. Three are still under treatment. Twenty-one died. The re-

suits in 4 cases are unknown.

The following operations were done rib resection in or cases thoracoplasty in 11, and thoracotomy in Of the or patients subjected to rib resection 20 died, 22 were cured, and 42 were considerably benefited. Of the 20 who died, 4 had tuberculous. Of 15 cases of chronic empyema, thoracoplasty was done in ii Six of the ii patients were cured, 4 were considerably benefited, and I died. Resection, which was done in the cases of 44 children was followed by cure in 12 considerable improvement in 24, no improvement in 4, and death in 4. Resection must be done as early as possible. Before the operation the pus should be examined bac teriologically and the chest examined roentgeno-Treatment by active respiration has logically proved of no value. The mortality among children after puncture and thoracoplasty without resection is high 35.6 per cent, and after the closed method of treatment 88 per cent. In chronic cases the Schede operation combined with the decortication of Delorme has proved a life-saving measure.

V ACKERNANCE (Z)

ESOPHAGUS AND MEDIASTINUM

Raven R. W Diverticula of the Pharynx and Caophadus Louce 1933 coxxiv 1011

Raven compares the pathological findings with the roentgenological findings in diverticula of the

pharynx and orsophagus.

Congenital diverticula of the pharyna which arise from the pharyngeal embryonic endodermal struc tures are lateral in position. They may communicate with the skin as well as with the pharynx. The pharyngeal opening may be below and behind the tonall or at the bottom of the pyriform fossa.

Acquired diverticula of the pharynx may be anterior lying in the midline in front of the entrance to the resophagus and posterior to the larynx, but as a rule they are posterior The pouch is a prolapse of the pharyngeal mucous membrane between the two sets of muscles forming the cricopharyngens muscle. It may be associated with a marked dilatation of the orsophageal ornice, hoarseness due to pressure on the recurrent laryngeal nerve, or ptosts of the cyclid or exophthalmos due to pressure on the cervical sympa thetic nerve.

Roentgenological examination is most successful when a thick paste of bismuth oxychloride and water is swallowed and the action is observed with the fluoroscope. It is essential to notice how the pouch empties. The bismuth flows from the upper

part of the pharyngeal pouch, the lower border of the pouch is round and the esophageal lumen is not irregular In contradistinction, a carcinomatons stricture of the upper end of the æsophagus shows a dilatation of the coophagus proximal to the stric ture. The lower border of this is conical, not round and is followed by marked irregularity of the resophageal lumen. The bismuth is seen to flow from the lower end of the conical dilatation.

In congenital diverticulum of the cesophagus associated with an ecsophagotracheal fistula the cesophagus ends blindly forming a uniformly dilated pouch. The lower segment of the resophagus opens into the traches. On roentgenological examination a large amount of gas is seen in the stomach.

The term tuberculous pouch is preferable to Tuberculous the term traction diverticulum. ponches are most common in the antenor wall of the osophagus below the bifurcation of the traches. They are small and conical and have an oval orifice. They may be single or multiple.

Diverticula associated with obstruction of the lower end of the assophagus are secondary to cardiospann Large œsophageal pouches are caused by distal osophageal obstruction which raises the intra assophageal pressure and thereby causes hermation of the mucosa in an area where the muscle coats have been weakened by local resophagitus.

J. DANIEL WILLIAM M.D.

Watson W L. Carcinoms of the Esophagus. Sure Gyrec & Obst., 1933 lvl. 884.

This report is based on 500 cases of carcinoms of the cesophagus which were treated in the Memorial Hospital, New York, during the period from 1918 to 1031 Of this number 167 were cases with a positive biopsy diagnosis. In the same period of time there were 20 patients suffering with resophageal obstruction which was attributed to cancer but was later found to be caused by a benish condition such as spasm, syphilis a non-specific ulcer an acid or alkali burn or idiopathic stenosis.

Gross examination of resophageal carcinomata

demonstrates 3 definite types

I The bulky polypoid, vegetative type which
grows into the lumen producing symptoms of obstruction at an early stage.

2 The shallow ulcerating type which produces early symptoms of mediastinal involvement such as pain and backache. Metastases and symptoms of obstruction may be absent. This type tends to perforate the musculature of the cesophagus early and invade the sorts, bronchi, or traches.

3 The hard infiltrating, scirrhous type which invades the resophageal wall and may encircle the lumen causing fixation of the wall and producing symptoms of obstruction. The extension of the tumor occurs by way of the submucous lymphatics.

Of the 267 lesions diagnosed by biopsy in the cases reviewed, 143 were squamous-cell lealons, 10 were adenocarcinomata, and 5 were transitional cell tumors. Of the 227 lesions which could be graded, 12 7 per cent were of Grade 3 and of these 6 1 per cent were reported as probably radiosensitive. Of the 13 2 per cent which were of Grade 3 all were probably radiosensitive.

Autopsy was done in 27 cases. In 13 (48 per cent) of these there was no evidence of metastasis. Gross lymph-node involvement was found in 12 (44 per cent). In 7 (46 per cent) there was extended to or rupture into, the traches or a bronchus. In 2 cases the disease ruptured into the norts, causing a

sudden fatal hemorrhage.

As a causative factor the author soggests the frequent drinking of copious amounts of excessively hot tex, as is done by the Russians. Forty-six per cent of the foreign patients whose cases are reviewed were born in Russia. The Russians contrambered the native born patients. Syphilis was present in only 7 per cent of the cases.

Cases of cancer of the crophagus constitute 2.5 per cent of all cases of malignancy admitted to the Memorial Hospital New York. Cancer of the crophagus was responsible for 3.38 per cent of the deaths from malignancy occurring in New York

City in the year 1011

Of the 50 cases reviewed by the author 54.5 per cent were those of mains. The average age of the makes was fifty-seven and four-tenths years, and the average age of the females, fifty three and eight tenths years. Sixty four per cent of the patients stated that their first symptom was difficulty in the swallowing of solid food. This is a rather late manifestation of the disease.

The diagnostic procedure at the Memorial Hos-

pital is as follows The complete history is recorded, a physical examination is made, and the patient then referred to the Head and Neck Department where the oral cavity and larynx are carefully examined and blood Is withdrawn for a \\ assermann test. A fluoroscopic examination with the swallowing of barlum is then made and roentgenograms of the ersophagus and lungs are taken. The \ray examinations are followed by an ersophagoscopic examination, during which timue is obtained for blongy. By the use of a thick barlum paste in the fluoroscopic examination it is possible to determine the extent of the lesions quite readily Of 203 cases in which a roentgen examination was made, the roentgen diagnosis was carcinoma in 97 obstruction in 47 stricture in 21 a filling defect in so irregularity in 8 and ulceration in 1 In no case was the lealon missed.

In the firadiation treatment of croopbaged acretions at the Memorial Hospital crossining is done through 4 portals. The beam is directed so that it passes through the minimal amount of lung tierce. It has been found that 2,000 r may be given through each of the portals without histering the skin or custing severe constitutional symptoms, the skin or custing severe constitutional symptoms, the leafon has bad a high mortality. Pullative the beaton has bad a high mortality. Pullative for the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processory of the processor of the process

cases are reviewed, 7th had had a gustroatomy and external irradiation. Of this group, the average length of life after treatment was six and twenty seven hundredths months. Twelve patients treated with moderate does of external irradiation survived for an average of five and thirty three hundredths months.

The prognosis is grave. In the cases reviewed, the average length of life after the oneset of the symptoms was ten and a half months and the average length of life after admission to the borgital was four and eighty three hundredits months. In 48 per cent of the cases the cause of death was brotchial postmonia. Autros Comman, 31 D.

Zanijer J H.: Surgary of the (Eaophagus (Dio Chirurge der Spetaeroehre) Vurkendt 9 Kmp sternet Ges Chir 932 i, 48c.

This is an exhaustive review of the important surgical conditions of the cesophagus. In the disconsion of carcinoma, attention is called to the claim of Guisez that this condition may be induced by psychic shock leading to spasm with retention and resulting inflammatory irritation. Alcohol is also cited as a cause of irritation. With regard to the treatment, the author cites the results obtained by Guisez with roentgen and radium irradiation, which unquestionably was followed by cure in some instances and marked improvement in others. He cites also a good result obtained by Selfert by endoscopic removal of the lesion in a case of circular carcinoma of the cervical portion of the cerophagua. Finally he calls attention to the occasional successful results of surgical treatment, especially in cases of carcinoms of the cervical portion of the ersophagus, and the rare good results obtained by surgery in cardnoma of other portions. The different operative procedures and their results are reviewed. Gastrot omy is not of much value even as a palliative measure, and is usually to be considered only as an aid to radium or roentgen treatment. Congenital malformations are discussed only briefly. They are seldom amenable to treatment. This is true especially of tracheo-croophageal fistula. Congenital strictures usually come for treatment late in Me and are amenable to dilatation.

For enophageal directiculum the one-stage opention is generally to be combined by the mose cases diverticulopeny or the two-stage operation is preferable. In the one-stage operation drinker should never be omitted even though it tends to drover the formation of a fixthis. A fixthis any be caused to close by placing a thin rubber tube against the crosphage.

For the removal of foreign bodies from the crophagus, endoscopy is best. (Esophagotony is justified only in rare instances, particularly for the removal of open aftery pain in small children, cause of deep cellutitis, and hemorrhage caused by attempts at endoscopic removal of the foreign body. In cases of organic benign stricture early diffiction is necessary. This makes it possible to avoid operative procedures, especially antethoracic crooph agoplasty. Hin case joi croophagal spann it is important to differentiate between functional spann and spann produced by carenoma. Cardioepann a less a spann than an insufficiency of the dilators of the cardia. In early cases the treatment should consist of the repeated passage of bouges, feeding through a tube and dilatation by the Plummer method or with the dilator of Starck. If these methods are insufficient, further procedures are justified. When the Heller operation fails, the operation of Hey lovaki or the Kelling Lammer operation may be done.

M STARJUSE (2)

Gregoire, R.: The Present Status of Surgery of the (Esophagus (Der gegenwartige Stand der Speiserochrenchirurgie) Verkandl d. 9 Kong internal Get Chir., 1932 1, 219.

Gregoire reviews resophages! surgery with the exclusion of cesophageal plastics. In his introduc tion he states that up to the time his article was written resophageal plastics had been done only in Germany, Russia, and Roumania. Up to 1900, cesophageal surgery was properly in abeyance because the establishment of diagnoses was faulty on account of a lack of investigative procedures. Then, two methods of investigation were introduced simultaneously roentgen-ray examination and en doscopy By these methods, the pathology of the cesophagus has been greatly enriched and we have learned to recognize asophageal ulcer, diverticulum and idiopathic dilatation. Although something was known about these conditions previously, the diagnosis had been usually made only by accident or at autopsy

In peptic alter the fluorescopic screen often shows notching of the walls choiced by speatic contraction above the ulcer and then the ulcer niche. The escaphagoscope shows the easily bleeding yellow flecked ulcer surrounded by a red inflammatory margin and permits direct treatment of the legion.

Diverticula of the csophagus may also be diag nosed accurately by \(\lambda\) ray and endoscopic examinations. In their treatment great program has been made. This reached its climax in Sauerbruich's operation for diverticula of the thoracic csophagus. The author has operated upon fourteen pharyngo-csophageal diverticula in one stage. Eleven of the patients were discharged healed ten days after the operation. In three cases a fistula formed but quick by cleared up.

Progress in diagnosis and therapy have been very great also in case of mega-croophagus. This condition should now be studied more thoroughly it can be readily demonstrated on the fluoroscopic screen. Methods of dialting the diaphragmatic ring bring about improvement, but not a certain cure, and operative procedures such as csophagogastrotomy by the Heyrovaky method and the cardiaphastics are not successful because they affect only the croophagogas and not the exophagoal histus. Gregoire there-

fore uses a thoraco-abdominal approach widens the cesophageal histus, and performs a cardioplasty

Foreign bodies in the esophagus can be removed by the natural routes in 95 per cent of the cases. Operative methods are necessary only when the patient is seen very late. When the foreign body is located in the thorace portion of the esophagus the introduction of the whole hand into the stomach after gastrotomy in order to reach the foreign body with a finger through the cardia is dangerous because of the possibility of peritonitis. The author therefore prefers the medianimal approach. Since the use of the endoscope, foreign bodies are seldom removed operatively

Also since the use of the endoscope, casophageal carcinomata are treated less frequently by operation. The various methods and associated difficulties of approach to esophageal carcinomata and the removal of the tumors are critically reviewed. Practically always the carcinoma has spread beyond its primary site.

The value of the article is increased by a twenty

page bibliography

Turner G G Personal Experiences in the Surgery of the Lower Esophagus (Eigene Erlahrungen in der Chirunghe der unteren Speierrochre) Verkandl o Kongr internat Ges Chir 1932 l, 725

In the first half of his work the author discusses cases of benign stenous of the croophagus in which he operated either because the stenois resisted conservative treatment or recurred after transent improvement. Among the operative procedures were plastic operations of the pyloroplastic type and an anastomosis between the croophagus above the stenois and the cardiac portion of the stomach. In his first case of croophagogastrostomy Turner obtained excellent results by a thoracic approach to the croophagus but he has now given up this difficult and dangerous method, using instead a procedure suggested by Lambert which he describes as follows

After preliminary gastrostomy which is usually necessary in order to strengthen the patient, a median incision is made from the left angle between the xiphoid process and the costal arch to the umbili The left lobe of the liver is drawn downward and the left suspensory ligament divided with a scissors The lobe of the liver so mobilized is then displaced backward to the right, the stomach is drawn down, and the peritoneal transitional fold from the diaphragm to the esophagus is divided transversely with avoidance of the blood vessel in that region. With a finger introduced into the ersophageal hiatus the lower part of the ersophagus is mobilized as far up as possible and drawn down ward. For the anastomosis, the posterior external row of sutures between the musculature of the cesophagus and the serosa-covered wall of the stomach is introduced before the mucous mem brane of both organs is opened. The diameter of the anastomosis is not less than 15 in. The mucosa is

sutured by continuous or interrupted sutures whica, perferably, grasp the muscles of the escophagus transversely. Finally, the left lobe of the liver is fixed to the stomach below the anastomosis with a mattrees suture. Under certain conditions a rubber data in a local over the anastomosis.

The author has never noted any complications

during the after-treatment.

Turner used this method for the first time in tors, in the case of a woman reenty-one years of age who since her eighteenth year had the most severe symptoms of cardiosyam. Bongle treatment had been given up because it was too painful. After the operation the patient was completely relieved of her symptoms. The author emphasizes, however that the operation described should be used only after all conservative methods have been tried in the states that in thirteen of trenty two cases Walton obtained a complete cure by the digital dilutation of the stomach described by Milkilicz.

French surgeons have claimed that in cardiosparm it is sufficient to free the enophagua from its connective tissue covering and draw it into the abdominal cavity. Of five patients on whom the author operated in this way only one woman, who was operated upon at years are have remained

free from symptoma.

The author rejects also the proposal to operate upon cardiospasm according to the method of Rammatedt for pylorospasm. Two patients which he treated in this way developed recurrences.

He next reports in detail the case of a man aged thirty three years who received no benefit from a simple mobilization of the lower end of the casopha gas and on whom an anastomotis was done one year later. The patient himself was very well astifaced with the result of the second intervention, even though be reported that he required a longer time on eat than normal. The author was all the more superiority of the second intervention, even the control of the control of the control of the superiority of the control of the control of the control of the superiority of the c

The last benign case treated by the author was that of a twelve-year-old boy who at the age of ten years, had been treated for croophageal stenois by the Rammitedt coveration, but had been benefited thereby only alightly and temporarily The author did a gastrostomy under local anzishesia, and two months later treated a cleatiful atticure of the lower end of the croopbagus which he found at the laparotomy by a cardioplasty of the Heineke-Michigan and the control of the croopbagus which he found at the laparotomy by a cardioplasty of the Heineke-Michigan and the control of th

The resection of carefnomata of the lower end of the resonbarus is made difficult by the rigidity and the impossibility of lengthening the diseased portion of the groupherus. Two petients on whom the author undertook this operation did not survive The greatest technical difficulties are presented by malignant tumors of the middle portion of the Granhama as the use of a posterior thoracic muta for the operation as almost impossible. Of cight cases of cancer of the croopingus in which the author examined the tumor by the abdominal method, he found the condition increasible in seven. Once or twice in performing a gastrostomy he took the opportunity to determine the extent of the car cinoma and on the basis of the findings he concluded that he could operate more radically. However when he attempted to do an extimation two or three weeks later, he discovered that the tumor was fixed considerably firmer and was no longer resectable

In conclusion Turner describes an operation for carcinoms of the resophagus in a man sixty-two years of are. It was impossible at first to holate the tumor completely through the abdomen and draw it downward. Therefore the cesophagus was attacked by way of the neck and the upper pole of the tumor was exposed through that region. The resophagus was divided and the upper stump fixed to the skin of the neck. However the attempt to draw the lower stump upward was unsuccessful. Finally by introducing the entire hand into the posterior mediastinum, it was possible to free the excephagus from below so that it could be drawn through the abdominal cavity and resected. This procedure caused severe hamorrhage. The opening in the disphragm was closed by suturing over it the left lobe of the liver. The patient died one week after the operation with the symptoms of sepsis. Autopsy showed that the tumor had been removed entirely and that no dissemination by way of the lymphatic vessels had taken place.

From (Z)

SURGERY OF THE ABDOMEN

ARDOMINAL WALL AND PERITONEUM

Steinberg, B and Goldblatt IL: Protection of the Peritoneum Against Infection Sure Grace & Obst., 1035 lvli 15

The authors report the results of their experiments on peritoneal vaccination by the injection of a suspension of dead organisms in gum tragacanth solution into the peritoneal cavity. They used the hacillus coli suspended in physiological saline solu tion with a z per cent content of gum tragacenth. Previous experiments demonstrated that hacteria suspended in physiological spline solution and in lected intraperitoneally pass into the blood and lymph rapidly When suspended in gum tragacanth solution they remain in the peritoneal cavity longer

In the typical experiment a dog was given intraperitoneally 50 c.cm. of a 1 per cent solution of gum tragacanth in physiological saline solution in which were suspended about 200 million heat killed colon bacilli per cubic centimeter Following the injection the white cells in the peritoneal exudate were counted at hourly intervals. Up to the fourth hour there was a gradual increase in the number of polymorphonuclear leucocytes. In ten hours, the white cell count in the peritoneal exudate rose to 153 000 per cubic milhmeter After twenty four hours it was 240,000, and after seventy two hours, 460 soo. The white cells persisted in appreciable numbers in the perstoneal cavity for twenty-six days. For the first forty-eight hours the cells were predominantly of the polymorphonuclear type. In seventy two hours and from then on, there was an appreciable increase in those of the mononuclear type and a decrease in those of the polymorphonuclear type. The introduction of hving organisms into a peritoneal cavity so vaccinated at least twelve hours previously resulted in a marked phagocytosis of the injected bacteria. In a control animal not vaccinated death from peritonitis usually fol lowed when the same dose of live bacteria was injected intraperitoneally

In 100 clinical cases an intraperitoneal injection of a suspension of colon hadili in physiological saline solution with a r per cent content of gum tragacanth was given from twelve to forty-eight hours before operation. The injection consisted of 30 c.cm. of this suspension which contained about 200 000,000 organisms per cubic centimeter injection was made in the midline, a little below the umbilicus. The urinary bladder was emptied by the patient prior to the injection. The protective substance was administered in cases in which there was danger of peritoneal solling cases of resection of intestine (especially of the large bowel), intestinal anastomosis, interval appendectomy, and chronic

pelvic conditions with adhesions requiring the re moval of pelvic organs. None of the 100 patients developed acute peritonitis.

The authors conclude that the material acts by evoking a polymorphonuclear hyperleucocytosis with a consequent rapid phagocytosis of living organisms.

MANUEL E. LICRIENGIEIN M.D.

GASTRO-INTESTINAL TRACT

Sturterent M. Cardiospasm with a Review of the Literature Arch Int Med 1033 ll. 714.

Cardiospasm is the name commonly used for a condition in which without a demonstrable obstructive pathological change and usually without pain food does not pass readily from the cesophagus into the stomach, but is held in the cesophagus. In the majority of cases the geophagus undergoes dila tation and sometimes the dilatation is extreme.

The author suggests that the more frequent oc currence of cesophageal disease in males than in females may be due to the greater use of tobacco and alcohol by males. He states that cardiospasm may occur at any age.

The cesophageal dilatation may be absent early or may be slight. The esophagus is spindle-shaped or shaped like a club with the bowl of the club down. As a rule the dilatation is found to stop above the cardia at the diaphragm. There is often a chronic inflammation with warty whitish thickening of the mucosa. The mucosa may resemble leather

The symptoms usually come on gradually with free intervals. The first attack may be severe. The patient is unable to get the offending bolus up or down. He may be unable to swallow even saliva.

In cases in which the condition has a gradual onset the symptoms may be divided into three stages de pending directly on the pathological changes. In the first stage the cardia offers resistance to the passage of food intermittently but the asophagus is able at all times to force food through. There is no regurgitation of food at this stage. In the second stage the spasm of the cardia has become so strong that food cannot be forced through readily and regurgitation occurs during eating. Dilatation behind the spastic cardia allows the accumulation of food in the esophagus. This leads to the symptoms of the third stage, which are those of regurgitation at irregular intervals. Second-stage regurgitation occurs during eating whereas third-stage regurgita. tion may occur also at other times because of the pouching of the resophagus with accumulation of food in the pouch. After resophageal dilatation the food residuum gives a sensation of weight in the chest with anginal pain. The patient is unable to vomit or belch.

The chief complaint is not always dysphagia, and the history may be misleading. Solid foods are held back first and the patient forces them through by swallowing sallva, drinking liquids, breathing, producing pressure on the neck, assuming certain postures or compressing the boost.

Among the various physical signs described are duliness to the right of the sternum which, below the sternum, changes to tympany when the orsophagus is full of air riles when air is numbed in and sheence

of the second swallowing sound.

Roentgen study is superior to all other methods of diagnosis.

Medical treatment with atropin has proved disappointing

Many methods have been devised for dilating the croopingus by means of expanding instruments in troduced into the cardia through the mouth.

toms partially and temporarily

Several forms of dilating instruments are employed. Most of them consist of a rubber bag and a silk bag over a tube. The bags having been engaged in the constructed portion of the exceptages, the rubber is dilated with air or water. The dilatation is measured by the water or air pressure and is limited by the non-expandable silk bag. In some cases it is difficult to enter the earliat even with a small bougle. Under such direumstances the string method must be used. The old-retipped bougle may be passed on the string and the dilating bag behind the olive tin.

From 3 to 5 dilatations are made. Many patients are relieved by a pressure could to a column of from 16 to 12 ft. of water. The patient is cured if the ecopolages unctions normally ten days after a dilatation. In about 25 per cent of cases a second stretching is necessary. Visson's mortality is 12 death in 350 cases. Whatever method is used, it is a hospital procedure. Howard A McKarosr M.D.

Polland, W. S.: Histamin Test Meels: An Analysis of 988 Consecutive Tests. Arch. Int. Mod. 1933, h. 603

Polland characterizes the histamin test meal as "the only available procedure which fulfills the recognized criteria of an adequate functional test, is standardizable, imposes a maximum load on function, and yields pure juice suitable for quanti-In the o38 tests reviewed the tative analysis. natients were fasted for at least tweive hours and were examined in the basal state. A Wilkins tube was introduced into the stomach and after withdrawal of the fasting contents o. 1 mgm. of histamin per 10 kgm. of body weight was injected hypodermically Total secretions were then aspirated over successive ten minute periods until secretion ceased. As a large series of cases showed the average difference between free and total addity to be 10 c.cm. of N/10 hydrochloric acid per 100 c.cm. of gastric juice, only the total acidity was tabulated. Standards for normal gastric acidity and volume of secretion were derived from 68, persons subjected to the test who showed no evidence of desses. In the cases of males the mean total addity ranged from not runts at the age of twenty-day ream to 67 units at the age of skyty five years. In the case of females the corresponding averages were 8cs and 667 units. In the cases of males the mean maximum ten minute volume of secretion ranged from 39 7 ccm. at the age of twenty five years to age ccm. at the age of skytydre years. In the cases of females the corresponding averages were 8cs and 8cs from 15 ccm. In both sects the total guidal secretion declined at about the same rate. The incidence of anacidity increased steadily from youth to old age, but at all ago periods was higher in females than to males.

Of two persons with duodenal picer, or a per cent had a total acidity and 20.2 per cent a volume of secretion higher than the mean values of normal persons of the same are. Of 16 persons with sastric ulcer or 7 per cent had a total acidity and 75 per cent a volume of secretion higher than the most values of normal nemons of the same are. In the cases of cardnoma the incidence of anaddity was 60.6 per cent. Total secretion is obtained by multiplying the mean volume by the mean total acidity for each decade. In 87 r per cent of the males with gastric ulcer and or s per cent of those with duoderal picer the total secretion was above the normal mean for their respective ages, whereas in all of the males with carcinoma the total secretion was below this mes n SANUEL I FORTLEON M.D.

Selvaggi G.: Acute Perforations of Gastroduodenal Ulcera (Salle perforation) acute delle alcere gatroduodenall). Ann. ital. di chir. 1915, xll. 41

In gatriculors perforation occurs most foreusty near the prices and next most frequelty in the order among the prices and next most frequently in the order among the preser curvature. In doordersal short it occurs most frequently in the first part of the doodenum, occasionally in the second part, and rardy in the third. Of the perforations studied by the anthor, 44 per cent were doodenal, 34 per cent were pyloric or juxta-pyloric, 17 per cent occurred on the lesser curvature, 8 per cent occurred on the studies curvature, 8 per cent occurred on the cardia, and 1 per cent occurred on the theory of the cardia, and 1 per cent occurred on the posterior surface of the stonaction.

Perforation is usually single, but may be multiple. The opening may be patent or closed by fibrits of by adhesions to adjacent structures. The gastrodocal contents may or may not be spilled into the peritoneal cavity. The peritoneal contents afterly with the time that elapses after the perforation, the character of the gastroduodenal contents, and the content of the gastroduodenal contents, and the content of the gastroduodenal contents, and the content of the gastroduodenal contents, and the contents are noted, the peritoneal contention is usually sterile. With time, it tends to become alkaline, increase in toddity and become spilled.

The first symptom of perforation of a gastric or deodenal ulcer is a midden excruciating pain, usually in the epigastrium but occasionally localized or referred to the right upper quadrant of the abdomen. Depending upon diaphragmatic involvement it may radiate to ather aboulder. The pain is followed by vomiting hicrough, shock, thoracic respiration, fever leucocytosa a board-like rigidity of the abdomen and a decrease of liver duliness. The differential diagnosis must rule out appendicties, cholecystifts, and acute pancreatitis.

The treatment indicated is immediate operation. If possible, the operation should be done under local anesthesia supplemented when necessary by ether, but preferably by ethylene. If an incision is made in the right iliac fossa because of an erroneous diagnosis of appendicitis it should be closed and the correct incision made. An erroneous high incision on the right side may be changed to the Mayo-Robson right oblique incision. The diagnosis is confirmed by the escape of gas when the abdomen is opened and the presence of gastric or duodenal contents in the peritoneal cavity. The surgical procedure depends upon the findings. After cauter ization of the ulcer the perforation may be closed by two layers of interrupted autures. In some cases cauterisation may be omitted. If necessary a gastro-enterostomy may be done in addition to closure of the perforation. In cases of large callous ulcers which are difficult to close, a tube may be sutured into the perforation to convert it into a gratric or duodenal fistula, and later withdrawn. In the cases of young patients in good physical condition who come to operation early resection may be considered. In addition, a complementary jejunostomy may be indicated. The choice of operative technique must depend upon the judg ment of the surgeon, SAMUEL J FORELSON M.D.

McIver M A. Acute Intestinal Obstruction. Seventh Installment. Am. J Surf., 1935 xxi, 143

In cases of intestinal obstruction early diagnosis is of extreme importance. The history is of great aid. The Incidence of intestinal obstruction resulting from adhesions is increasing because more laparotomies are being performed. Thus is evident from the number of cases seen in the Massachusetts General Horpital. In the ten-year period from 1898 to 1907 there were 37 cases of obstruction occurring early or late after an abdominal operation in the period from 1908 to 1917, 57 cases and in the period from 1918 to 1927 \$2 cases and in the period from 1918 to 1927 \$2 cases.

The pain of intestinal obstruction is colicky. That associated with obstruction of the large bowel lasts longer than that associated with obstruction of the small bowel. When strangulation occurs the pain becomes steady and agonidar rather than colicky because of the infiltration and distention of the loop of intestine. The pain from obstruction of the small bowel is apt to be in the region of the umbilicus or the eppsarium, whereas that due to obstruction of the colon is likely at first to extend across the lower abdomes. Vomiting susually occurs and as a rule is an early symptom. The amount varies with

the level of the obstruction and the stage of the condition. The higher the obstruction the more apt the patient is to vomit. In the early stages of the obstruction the vomitus may consust of gastric and duodenal secretions. If the voniting continues it may have a fiscal odor which is produced by the action of colon bacilli and putrefactive bacteria. Fecces appear in the vomitus only when there is a firstulous communication between the stomach and colon. As a rule a definite period of time clapses between the onset of pain and the onset of voniting

Obstipation and distention are not constant signs of intestinal obstruction. Distention is most marked when the obstruction is in the left half of the colon. Muscle spasm and tenderness are frequently found early in the condition and particularly when the involved loop lies in contact with the abdominal wall. Tumors may be present, especially in intus-susception. Visible peristatish may occur proximal

to the obstruction.

In the diagnosis of intestinal obstruction routine laboratory studies are of little value but plain roentgenograms of the abdomen are of definite aid. In cases of postoperative obstruction it is important to determine whether the patient is suffering from mechanical obstruction or advnamic ileus. The presence of colicky palns associated with visible or audible peristals a suggests an organic obstruction. The diagnosis of volvulus as a cause of intestinal obstruction is almost impossible. Gall stone fleus usually cannot be diagnosed, but oc casionally a rountgenogram will show the filling defect. Mesenteric thrombosis may occur at any age, but is most frequent in later life. It is usually associated with disease of the circulatory system. In addition to abdominal pain vomiting melens and distention of the abdomen, there is apt to be a leucocytosis. In intestinal obstruction due to a neoplasm the symptoms are less fulminating than in intestinal obstruction due to other causes, and on account of the insidious onset of the condition distention is apt to be a prominent sign. In cases of strangulated external hernis the diagnosis is usually easy but occasionally especially in cases of femoral hernia, the hernia is not obvious. Among 147 cases of obstruction due to a strangulated ex ternal hernia which were treated at the Massa chusetts General Hospital there were a in which the diagnosis was not made until laparotomy was performed and a knuckle of gut was found strangu lated in the femoral canal. Intussusception occurs most frequently in infants. Of a deaths from intussusception in the Massachusetts General Hospital. only 2 were those of patients admitted to the hos pital within forty-eight hours after the onset of symptoms. ALTON OCHRIBER, M.D.

Poncher H. G and Milles, G: Cysts and Directic ula of Intestinal Origin. Am J Dir Child., 1933 rlv 1004.

The authors report a case which they believe increases the evidence indicating that the origin of intramesenteric cysts and diverticula, duplications of the osophagus, mediastical enterogenous cysts, and duplications of the colom may be independent of the vitelline duct. The indires in their case were

r An intramesenteric diverticulum arising from the Beum contained in its walls gastric nuccess and a polyre composed of gastric nuccess and was ter minally constricted to form incompletely separated crais.

a A peptic ulcer of the fleum at the upper point of communication with the diverticulum, which was probably the source of the hemoryhaps

 Extrapleural enterogenous crists of the mediastinum made up of gastric mutors, the largest part of which had undergone pressure atrophy and perhans directive necrous.

4. Pressure atrophy of the bodies of the second to seventh ribs, inclusive, secondary to the pressure of the large mediastical cyst.

5. Atelectasis of the right lung and aniemia of

the parenchymatous organs. The authors review the literature and discuss the various theories of the embryonic origin of these malformations. They say "It is difficult to cor relate the wide variety of positions of these enterog enous diverticula and cysts, of which our case is an example, with vitelline duct rests." They refer to the work of Lewis and Thyng regarding the not uncommon occurrence in embryos of diverticula or accessory epathelial nodules which are derived from intestine occur along the course of the resordisms. stomach, and small intestine, and ordinarily disappear Since at the time of obliteration of the vitelline duct the dorsal mesentery and its vessels are already well developed, it is necessary to assume, in the case of intrame-enteric cysts and diverticula, that the duct remnants insert themselves not only between well-formed leaves of the mesentary but also between its vessels, deriving an entirely new blood supply from them. In the authors' opinion it is more logical to consider the mentioned epithelial nodes as the source of enterogenous cysts and diverticula lying within the mesentery as well as those found in positions far removed from the site of the vitelline duct.

The diagnosis is difficult. When the cysts occur in the mediastinum the symptoms are those of any benign tumor occurring in that region. Abdominal tumors of this type produce no pathogunomic symptoms, but are often accompanied by obscure abdominal colic and unexplained intestinal hemor thate.

These produces the contraction of the con

Wangenstam, O. H.: Therepsutic Considerations in the Management of Acute Interdinal Obstruction: The Technique of Enterotomy and a Further Account of Decompression by the Employment of Suction Sphonaga by Assal Catheter Arch. Surg. 935, xxv. 93.

The work of Hartwell and Hoguet establishing the efficacy of the subentaneous administration of saline solution in definitely prolonging the lives of dogs

with high intestinal obstruction gave considerable impetus to experimental investigation of obstruction of the bowel.

It is now known that an increase in the blood ures, a decrease in the plasma chlorides, and increase in the carbon double combining power of the blood occur regularly only in high intestinal obstructions and not smilicently early to be of diagnostic sid. Saline solution acts like a specific only in high obstruction and then not as an antidote or detailiying agent, but as a substitute for important findle such by would use the yould see the specific solution.

pertain mulai soit by volming.

In case of late simple obstruction a well-per formed enteroxions will orsually save life, but an attack directly on the obstruction is extremely basardoux. Enteroxiony is life-awing in rech continuous and because it dains of a potent tool and threatenst the organism, but because it relieves to the continuous of the bowley life of the continuous of the bowley for the continuous of the bowley for the continuous of the bowley will be because of a persistent intrinsic obstruction below permits automatic establishment of the continuity of the bowley.

The importance of the early recognition of abdominal disorders of an acute nature requiring operation is generally recognized. There is a close relationship between the ultimate mortality and the time in tervening between the onset of the condition and

the institution of adequate treatment. After the presence of intestinal colic has been established it is necessary to determine whether the pain is due to mechanical obstruction, acute enter-calitis, abdominal allergy or food personing. Of great add in this determination is a single reentground of the abdominal allergy or food personing of the second of the second of the partial supportance of which gets in the second of the second

Patients with strungulation types of obstruction almost invariably present local tenderness and rigidity of the abdominal wall due to the except of hemorrhagic fluid into the pertinoual cavity. The complaints and the other findings of physical examination are those of intential colic section in the properties of the course in simple obstruction. There is an early alight quickening of the pube incident to the loss of blood into the infrarcted segment, and early rise of the temperature to 100 or 100 degrees F are usual. In the early stages of dimple obstruction there is so

disturbance of the general condition.

A patient compaising of intermittent cramy pain attended by nauses and vomiting but associated with local tenderaces or rigidity of the absonance may be mappeded to have simple interest and the part of the part of the painting of t

activity at the height of the pain indicates that the stasis is due to a mechanical cause. The stethoscope is an important aid in the diagnosis.

Successful treatment of acute intestinal obstruc tion requires early release of the obstruction. Some types of simple obstruction especially those in which decompression of the bowel (enterestomy) serves to re-establish intestinal continuity can be satisfactorily treated by non-operative means (suc tion siphonage by nasal catheter)

The author has long used nasal catheter aspira tion of the stomach and duodenum in functional spastic ileus, and now reports on its use in acute mechanical obstruction. In the latter condition negative pressure suction is employed to aspirate fluids and gas. Sodium chloride is given freely subcutaneously and intravenously to replace the fluids lost by aspiration. It is very important to replace the fluids sufficiently to permit a urinary

output of 1,000 c.cm. daily

Sedatives are rarely necessary. With the use of catheter aspiration, pain almost invariably ceases. As compared with catheter drainage enterostomy has the advantage that it permits feeding of the patient as soon as the decompression has been accomplished. The nearer the enterostomy is to the point of obstruction the more efficient is the drainage. A midline subumbilical incision is made and a No 14 catheter inserted by the Witzel technique. CHARLES F DUBOIS, M.D.

Mondor H., and Lamy M: A Clinical Study of Ulcers of Meckel a Diverticulum (Étude clinique des ulcères du diverticule de Meckel) J de chir-1033 11 553

A critical review of about 100 cases of peptic ulcer of Meckel's diverticulum collected from the literature shows that this lesion is being recognized with increasing frequency. It is usually found in children and more frequently in males than in females. Before operation the presence of an ulcer is most often manifested by intestinal hemorrhage. The bleeding may be slight and intermittent or rapidly exanguinating Pain is almost invariably present, but may be overlooked in the cases of very young children. The site, duration, and peri odicity of the pain are extremely variable. Physical and \ ray examination are of little aid in the diagnosis before perforation occurs. Perforation is frequently preceded by hemorrhage and should be anticipated when bleeding cannot be otherwise explained. Perforation may occur into the free peritoneal cavity, causing an acute and stormy peritonitis, or may be subscute and covered, lead ing to localized peritorntis or abscess. In the latter event subsequent free perforation is possible.

Peptic ulcer of Meckel's diverticulum should be considered in all cases of melana especially those with attacks of pain. In cases of peritonitis in which appendicitis or intussusception are suspected but not found, perforation of a diverticular ulcer must be ruled out. LEO M ZDINERMAN MLD

Laurell, H : Uncomplicated Intustusception of the Colon Discussed Chiefly from the Roentgenological Viewpoint (Ueber reine Coloninvaginationen vor allem vom roentgenologischen Gesicht spunkt) Acta radiol., 1933 xiv 122.

The author reports a case of intermittent intussusception of the colon due to the presence of a The mechanism of the invagination is shown by serial roentgenograms taken while the ensheathing was in progress.

On the basis of eight cases reported in the litera ture and his own observations, Laurell discusses the roentgenological diagnosis of this rare form of colonic intussusception in children and adults.

Krecke, A.: The Causes and Nature of Appendich tis (Ueber die Ursachen und das Wesen der Appendicitia) Muenchen med Wehnschr 1033 1 299

On the basis of his extensive expenence the author attempts to answer the following questions. What conditions determine a fatal outcome of appendica tis? Why has this condition, which previously was rare, become so common and so dangerous? How may we explain the frequent occurrence of complete gangrene of the appendix within a period of three or four hours? Is appendicitis an infectious disease? Does the appendix become involved from the blood stream or the intestine? Is appendicitis contagious? Is it inherited? Can it be caused by certain foods? Can it be produced by foreign bodies? What is its relation to gastric ulcer? Why does it occur perticularly in young persons?

Appendicitis has been attributed to infection, neuro-angiospasm, mechanical factors diet, foreign bodies, and trauma. It has also been considered endemic. That it is due to infection there can be no doubt. Operation and autopsy show only a single phase of the disease, but a study of the sequence of phases demonstrates that there is a continuous evolution from simple catarrhal to gangrenous changes. It has been generally believed that the in fection of the appendix has its source in the intestine. The theory that it arises by the hematogenous route has been less widely accepted. Hilgermann and Pohl claimed that the causes of the infection are not ordinary intestinal organisms, but streptococci and pneumococci, and that they had found a correspondence between the bacteria of the appendix and those in throat smears taken at the same time. These observations still lack confirmation.

The neuro-angrospastic theory of Ricker is compared by Krecke to the new theory of the origin of gastric ulcer and is regarded by him as of great im portance. This theory is supported by the attacks of colle which frequently precede severe appendidtis. Ricker attributes the colics to true vascular spasms and therefore assumes that the basic cause of the disease is a severe disturbance of the sympa thetic nervous system. This assumption will ex plain also the familial occurrence of appendicitis.

With regard to the mechanical theory of the origin of appendicitis Krecke states that some factor in addition to stenoris must be invoked to explain the severe changes in the walls of the appendix According to Helle, this factor may be a fermenta tive process from the decomposition of protein Faceliths are of importance only in the production of stenoris

In discussion the dietary theory Krecke calls attention to the rarity of appendicitis in certain races which five on an exclusively westable diet

With regard to the theory that appendicitle is caused by foreign bodies, he states that true foreign bodies are very seldom found in the appendix in appendicitis and that there is little evidence to indicate that intestinal worms may cause the condition.

Trauma is remonsible for appendicitis in only rare cases. A relationship of the condition to trauma may be assumed only if the trauma was severe and involved the right fliac forms directly the symptoms of appendicitis developed within two days after the accident, and anatomical examination definitely reyeals hemorrhanic infiltration of the appendix. It is possible that an already existing appendicitis may be aggravated by trauma but even this assumption recourse caution

An occasional endemic occurrence of the disease must be admitted.

Kreeke comes to the conclusion that the cause of scute appendicitis is still unknown. JARRES (Z)

Lutz: Strictures of the Rectum Due to Lymphogrannloma Inguinale (Rectumstrikturen durch Lymphogranulome inguinale) Zestralk, f Chr.

The author states that it is a mistake to attribute the majority of inflammatory strictures of the recturn to syphilis, tuberculosis, or gonorrhora. A large number of the strictures which occur almost extin sively in women are due to lymphogramuloma inguinale, a venereal infectious disease with a characteristic inflammation and connective tissue reaction which is spread by way of the lymphatic channels.

The bacterium causing the disease is unknown. Its portal of entrance is always the renital tract. Frequently there is extensive lymph-gland enlargement with fistula formation. In women there is often involvement of the deep pelvic and rectal glands with severe secondary inflammation of the wall of the rectum and the surrounding tissues and marked strictures of the rectum or elephanticals vulvae or anorectalia.

The strictures are usually from a to 8 cm. above

the anna, but occasionally are higher

In the differential diagnosis, intracutaneous punc ture according to the method of Freigh is confirms

At first, conservative treatment with the use of bougles, rectal irrigations, and diathermy should be The author recommends small enemas of pure glycerin which kills the causative organism. In severe cases these measures must be supplemented by the formation of an artificial anus. The artificial anus must not be closed too soon as involvement of

the slands bigher up may develop later and came higher strictures. Occasionally more or less extensive resection of the rectum is necessary

In the discussion of this report Borchann called attention to the relative frequency of the condition and stated that as the results of treatment are nonin late cases, it is very important to make a disensels before the formation of strictures

Raiford, T. S.: Enitheliomata of the Lower Rectum. and Arms. Sury Grass, & Obst. 1013, lvll. at

The author calls attention to the fact that aporerral enitheliomata are a well-known pathological entity although they constitute less than a per cent of rectal cancers. Of 352 cases of malignancy of the rectum, only to (2.8 per cent) were of a acuamous-cell nature. These to cases are analyzed from the standpoint of clinical features, nathology prognosis, and treatment. The ratio of white to colored nationts was 4 I Only 2 of the 10 patients were males. The age distribution corresponded roughly to that of carrinoms elsewhere in the body the average age being forty-cight and seven-tenths

Irritation such as may arise from features, figule, and chronic picers, and over-exposure to the X-rays are mentioned as factors which may favor the development of apprectal enithellomata

Pain of an aching, boring, or throbbing character is usually present, and there is a heavy sensation in the lower pelvis which bowel evacuation falls to relieve. Itching frequently precedes the pain by weeks or even months. The loss of bright red blood is a common sign. The patient often recognises an unusual mass or ulcer by palpation. Constitutional symptoms appear late after the disease has become well established.

The ampearance of the lesion is mustly character istic, but varies somewhat with the type of the growth and the degree of its malignancy. The small papillary excrescence is perhaps the earliest and most benisn form. It resembles a condyloma or venereal wart. In some cases the lesion has the appearance of a small perianal ulcer with an exca vated center and a bard indurated base. Biopsy is the only means of differentiating a malignant tumor from a benisn tumor

In the cases reviewed, the tumor was usually either a nodular indurated growth or a perianal ulcer In the majority of cases the nodular growth was characterized histologically by cells growing throughout the subcutaneous and submucous tismes in a discrete, well-circumscribed manner but show ing active mitosis. The perianal ulcer was usually composed of diffusely invading cells of a pure squamous type with few mitoses and many epthellal pearls. The ultimate results indicated that the nodular growth was the more malignant.

Treatment is inadequate. Surgical extirpation while removing the primary tumor is frequently followed by recurrence or metastases to the inquinal nodes. Irradiation frequently brings about regression of the primary growth and temporary freedom from symptoms, but death usually occurs later from metastases. The best treatment is believed to be external fradiation followed by radical excision.

In conclusion the author says that in spite of the extremely poor prognosis there is no reason for assuming other than an optendict attitude if the diagnosis is made early and measures for entire removal of the diseased tissue are instituted promptly

ARTHUL L. SHERVILE, M.D.

Heydemann E R. The Treatment of Carcinoma of the Rectum in the Goettingen Cinic in the Period from 1912 to 1931 (Die Behandlung des Rectumcarcinoma an der Goettinger Klimik von 1911 1931) Beiler E lie Chir 1933 civil, 173

The four principal operations for cardinoms of the rectum are secral amputation, stard resection, shdomlnosacral amputation, and abdominosacral resection. The choice of operation depends upon the level of the tumor its ertent longitudinally and into the surrounding tissnes, and the presence or shence of regional lymph-gland metastases. As a large proportion of carcinomats of the rectum develop from polyp: the early radical removal of polypi is urged. In a case of isolated, very early, and early accessible carcinoma of the rectum, local excusion may be considered when radical operation is refused by the patient's age or general condition.

In the period from January 1912 to October 1931 346 patients with carefnoma of the rectum were admitted to the Goettingen Clinic. Sixty three per cent were men and 37 per cent were women. Radical operation was performed on 194 [47 per cent) of the women and 474 per cent of the entire number of patients. Sixty five (187 per cent) of the 346 patients died in the borpital. Of the men by the men by the sixty of the women who were operated upon radically, 12 (196 per cent) died in the hospital. Of the men who were particularly, 12 (196 per cent) died in the hospital. Of the patients who were not subjected to radical operation, 25 (137 per cent) died in the hospital.

Carchoma of the ampulla was found in 240 (69 per cent) of the cases. In 78 (25 per cent) the carchoma was in the region of the anus and sphine ter A high, non-palpable carcnoma was present in 20 (6 per cent) of the cases.

The cardnoma was recorded as being of a polypoid character in a cases, but the number of carcinomata arising from polyps was probably higher In 5 of the 27 cases several carcinomata separated from each other by normal intertinal wall were found. In 3 cases, 2 simultaneously developing carcinomatous food were discovered.

In many cases the history extended back over a period of years. In 36 cases no rectal examination had been made.

One hundred and sixty four radical operations were performed during the last twenty years. Up to 1920 sacral amputation was the method of choice,

It was performed altogether in 66 cases. In S of these the operation could not be carried out radically In 36 cases the peritoneum was opened from below In 10 cases prostatic or vagunal resection was necessary. The operative mortality was 15 x per cent, A cure lasting for five years or longer was obtained in 12 (38 2 per cent) of the cases Recurrence developed in 20 5 per cent. Great disadvan tages of the operation are the necessity of working in the depth of the pelvis without direct vision, and the opening of many blood and lymph vessels which favors metastasis.

Sacral resection was done in 16 cases. Only 1 of the patients who is living has satisfactory uphIncter control. The primary operative mortality was 25 per cent. Five (25 per cent) of the patients are believed to be permanently cured.

The abdominosacral operation was done in 15 cases. In 6 cases a exceptiony was done previously In 14 cases the abdominosacral operation was performed in 1 stage. The primary operation was performed in 2 stage. The primary operative mortality was 40 per cent. Twenty-aix and aix tenths per cent of the deaths were due to infection A permanent cure resulted in 20 per cent of the cases.

Local excision was done in 5 cases. It was followed by cure in 1 case and by recurrence in 4 cases.

Abdominosacral exterpation, which today is the method of choice was done in 62 cases. technique is exactly like that described by Kirschner and Schmieden, with Bauer's modification of closing the bowel with a rubber cap Twelve (187 per cent) of the men and 8 (25 8 per cent) of the women subjected to this operation succumbed. primary operative mortality was 322 per cent. Recurrence developed in only 3 of the 42 patients who survived the operation. Metastases were found in 7 (16 6 per cent) of the patients. In 31 cases the operation had been performed more than five years previously Ten (32 2 per cent) of the patients were cured. Patients with an ordinary artificial anus complained least. Some of them did not wear a bag, having full control of bowel movements. In cases in which a sacral anus was formed the results were less favorable. The still high primary mortality will be materially lowered when the operation is performed more frequently in stages. Guleke states that in the first stage the formation of an artificial anus should be done and the operability of the tumor determined. The rectum may be extirpated two or three weeks later By this procedure shock and the danger of infection are reduced. After the preliminary decompression of the bowel the patient comes to the second and more senous operation in better condition. In cases of operable tumors primary freadlation with the \ rays or radium is inadvisable. In some of the cases reviewed prophy lactic postoperative Irradiation was given. Com bined roentgen and radium therapy is indicated chiefly in cases of inoperable carefronia. By this treatment the apread of the carcinoma may be considerably retarded. In many of the cases re viewed \texts_ray and radium irradiation was combined with repeated electrocoagulation following the formation of an artificial anns. Unbearable pain in inoperable carchooma of the rectum can be relieved by chordstony.

LIVER, GALL BLADDER, PANCREAS, AND SPLEEN

Chapman, C. B., Snell, A. M., and Rowntres, L. G.: Compensated Cirrhouls of the Liver: A Plan for More Intensive Consideration of the Earlier Stages of Dissase of the Reputic Parenchyma. J Am. M. Att., 1933. 6, 1716.

The authors stress the importance of an early dismosis of circhosis of the liver since to be success-

ful, treatment must be been early

In fifty-eight cases of chronic degenerative changes of the parenchyms of the live which are reviewed, the outstanding etiological factors were alcohol (twenty five cases) chology-stills (fourteen cases) and syphilis (ten cases). The authors emphasize the importance of infection, but believe that although single factors may cause dirthouts, as multiplicity of chemical and infections agents acting simultaneously or in sequence are probably referred to the control of t

On the basis of a complete history which included all complaints up to the time of the patient a ad mission to the hospital, the fifty-eight cases re viewed were grouped according to their major symptoms as follows gastro-intestinal symptoms with jaundice twenty four cases gastro-intestinal symptoms with hemorrhage, eleven cases gastrointestinal symptoms with both harmorrhage and jaundice, three cases harmorrhage only two cases sundice only four cases, and various gastro-intestinal symptoms only fourteen cases. Loss of weight and asthenia were common. The average loss of weight was 231/2 lb Examination revealed a palpable liver in forty-eight cases, slight ordems of the lower extremities in twenty visible jaundice in seventeen, hemorrholds in nine, visible collateral circulation in seven, and hernia in six. The authors believe that hepatic enlargement is the principal and significant physical finding, and that a clinical diagnosis is doubtful in its absence. A moderate anomia occurs in about one-third of the cases. More severe anemia is due to hamorrhage. The authors place considerable reliance in the diagnosis on the results of bromsulphalein tests of hepatic function. Retention of Grade I was noted in five of the cases reviewed, of Grade 2 in five, of Grade 3 in twelve, and of Grade 4 in six. In twelve cases the results of the test were negative as the dye was not retained in significant amounts.

No attempt is made to classify the cases pathologically but the authors believe that alcohol is a causative factor in 40 per cent. In cases due to alcoholaum, total abuthence from alcohol is inportant in the treatment. A follow-up study of the alcoholic cases reviewed disclosed that the mortality was higher and the duration of life after examination at the clinic was shorter in this group than in the total group. Approximately to per cent of the patients died with an average of two years after the examination. However, restoration to health is possible. Two cases in which it occurred are cited.

The authors call attention particularly to the cases associated with intermittent or chronic obstructive jaundice. In this group treatment appears to have little effect and the prosposis is unfavorable. In air of the cases reviewed, death occurred within

about three years after the examination.

The group of cases in which syphills accumed to be cause included only case which were positive scrolopically and showed chialcal manifestations of yphills and signs of diffuse injury to the perachyna of the liver In a small number a history of abolium was given. The proposals in this props was surprisingly good, better than that in cases with a history of sleboblem or chronic hepatitis and junctice. Only one of the ten petients is deed. The nice others are in relatively good health.

once and in treatively soon peace were supported to the property of the peace of th

Twenty-eight of the fifty-eight cases reviewed were treated by operation. Splenectomy was done in twelve. The results show that in latent or compensated cirrhosis surgical exploration and even major surgical procedures are not associated with

great immediate risk.

Twenty-few of the fifty-cight patients are dead. Three died following a profuse gastro-intential harmorrhage, two of coma probably of bepatic offi, one of an intercurrent infection, and loar of a came not related to the billary tract. In the case of sixteen patients accurate information relative to the terminal filmess could not be obtained. Of the thirty three patients who are still living, twenty are fairly well six have had attacks of janualize and three have not harmorrhages. The remaining this teem complain of pastro-intential symptoms of the complain of pastro-intential symptoms of a symptom of a complain of the case of the thirty three durations of the case of the thirty three distributions are still living was alignity less that eight year.

A careful study falled to reveal any sign or symptom on which the prognosis could be based in an individual case. It appears that the patients will the largest livers had a more unfavorable course than those whose livers were described as small. Patients with ansemia apparently had a less favor able outcome than those with normal blood. Test

of hepatic function with bromsulphalein have defi nite prognostic algnificance. The alcoholic patient with an enlarged liver and a positive bromsulphalein test has only about an even chance of surviving for three years or more, regardless of the fact that he has not reached the stage at which an unqualified clinical diagnosis of carrhosis can be made. The patient with chronic or intermittent paundice and an enlarged liver has an equally unfavorable prog nosis. If syphilis is included as an etiological factor the gravity of the condition may be somewhat lessened. Patients with Banti a disease and sec ondary circhosis who have not yet reached the stage of portal stans and ascites have a good outlook as they respond well to splenectomy. In cases of compensated circhosis a history of hamorrhage or the finding of collateral venous circulation may con atitute a definite surgical indication. In the presence of paundice the possibility of a stone in the common duct must be considered. If the patient gives a history of alcoholism and hamatemesis, a Talma Morison omentopery and lightion of collateral venous channels should be considered. Excellent clinical results have been obtained from this procedure. Most fallures have occurred in cases in which the disease had reached an advanced stage at the time of the operation. Splenectomy if performed early, may ofter far more if there is a history of hamatemesis and anamia with moderate or slight retention of dye. JOHN A. WOLFER, M.D.

Brackertz: Animal Experiments with Regard to Inflammation of the Extrahepatic Bile Ducts (Theraperimentalle Entrandangsveruche an den extrahepatischen Gallenwegen) Zeniralli f Chw., 1933 p 107

The varieties of bile-duct infection have been investigated from all aspects, particularly the path ways by which the infection reaches the ducts. However the inflammatory changes in the wall of the common duct have received relatively little attention. The author has therefore made comparative studies of the course of bacterial inflamma tion in the gall bladder and the common duct of rabbits. The experiments were divided into those of acute inflammation of two or three days duration and those of chronic inflammation lasting five weeks. Dilute bouillon cultures of colon bacilius or streptococcus hæmolyticus were injected through the papilla into the common duct. In one series of experiments the wall of the common duct was in jured by repeated punctures with a needle while in the others injury was carefully avoided. In some cases the common duct was fied off, while in others it was left open.

In the experiments with regard to acute inflamma tion in which the common duct was left open and unliquired inflammation of the mucosa of the common duct was found occasionally but the wall of the gall bladder was often acutely inflamed in all of its layers. When the duct was injured there was almost always an inflammation involving all of the

layers of the duct as well as an acute cholecystitls, whether or not the duct had been tied off

In the experiments with regard to chronic in flammation in which the common duct was left open and uninjured examination revealed marked thick ening and chronic inflammation of the entire gall bladder wall marked cellular infiltration of the papilize, and in some cases marked ulceration ex tending into the muscular layer. The wall of the common duct showed inflammatory changes con fined to the mucose with some ulceration. When the duct was injured and tied off a granulating in flammation with marked thickening of the wall was found. The gall bladder was also chronically in-flamed. When the duct was left open it was un changed in two cases in spite of extensive injury. In one case it was slightly thickened and showed pen vascular cellular infiltration in its wall. When the duct had been ligated the gall bladder was deatrice ally contracted.

The experiments therefore demonstrated that the gall bladder wall is always more intensely involved by the infismmation than the wall of the common duct. This fact is attributed to anatomical differences. The wall of the common duct has a taut clastic layer beneath the mucosa which protects the duct from Injury, whereas the gall gladder wall lacks such an clastic layer SCHULLEMAN (Z)

Ibáfiez, A. I. L. Choledochollthiasis (La litiasis de la via biliar principal) Rev méd-quir de patol feme nine 1933 i 667

Rishes reviews the present status of our knowl edge regarding choledocholthials and reports twenty-four cases from Althabe a clinic in Buenos Alrea. The chief topics discussed are the bac teriology and pathogenesis of gall stones and the surgical pathology symptoms, diagnostic tests and methods of examination differential diagnosis, operative technique, pre-operative and postopers two exer, immediate and late postoperative complications, prognosis and causes of postoperative death in cases of stones in the common duct.

Of the twenty four patients whose cases are reported three refused operation. Of the five who died, all were seriously infected and in poor general condition at the time of their admission to the clinic. One died of shock, one of hepatic insufficiency two of angocholitis, and one of anglocholitis and supportative choledochilis. The patients who were in satisfactory condition at the time of operation made a prompt and uneventful recovery. In all of the cases a supraducednal choledochotomy with drainage through a T tube was done. In 32 per cent, a complete cholecystectomy, and in 32 per cent, a partial cholecystectomy was done in addition.

In the diagnosis Ibáñer has had little success with cholecystography and relles more on the various chemical examinations. He recommends systematic pre-operative duodenal intubation for both diag nosis and treatment. Indica concludes that the gravity of the local compileations of atones in the common duct demonstrates the necessity for early operation. Calculous angiochalitis is the source of the majority of both local and general compilications. In seriouness depends upon the kind of batteria causing it. Streptococic angiochalitis is exceptionally raws:

Every case of gall stones is a potential case of bepatic inandicinery. Involvement of the liver is a most important factor in the later prognosis and the postoperative treatment. In many cases some degree of bepatite insufficiency is present and may account for serious armaptors following operation. From our knowledge of lithius introduing the entire house of the contract and of intrahepsate lithius in its ordient than the contract and of intrahepsate lithius in its ordient of the lithing passages, the surgeon may be madele to the lithing passages, the surgeon may be madele to

There is general agreement as to the choics of operation and the operative technique. Supra duodenal choleschothouny with drainage is the rule, and a complementary cholecytectomy is almost always necessary. Prodemotomy is advisable only exceptionally, but it is one-times necessary for exploration of the ampella of Vater. Retropancratic doodcontomy has no established industrious. The results of supraduodenal cholecochotomy are attifactory: true recurrence, fixtule, and herals are unusual. In simple cases with only alight infection there is no mortably. Acute aspicohofitis and hepatic insufficiency are responsible for the majority of deaths.

The article is supplemented by a bibliography
of 173 references, chiefly to Argentialan and French
Biteratura. Many Euraperta Mossa. M.D.

Mailet-Guy P Auger L. and Croizat, P: An Experimental Study of Division of the Sphincter of Odd! (Etade experimentale de la section du sphincter d'Odd). Res de chir Par., 1933 El, 139

The authors studied the effects of transduodenal section of the sphincter of Oddi in dogs. The animals were kept under observation over a period ranging from three to eleven months. In all, loss of weight, a continuous low fever, and occasional digestive disturbances were noted. At necropsy, dense ad-hesions due to inflammation of the billary tract were found about the under-surface of the liver The common duct was thickened, distended, and discolored. The dilatation of the duct was appa rently the cause, rather than the result, of the ascending infection. The gall bladder was thickened and inflamed and contained turbid fluid or gravel. The inflammation of the gall bladder was associated with hyperplasia of the mucous glands of the organ. In 50 per cent of the animals concretions were found. The bile yielded positive cultures of intestinal organisms. The liver was firm and congested, and its lobulations were intensified. The ducts were distended No gross lesions of the liver were found, and cultures of the liver were negative. One of the dogs died of acute suppurative cholangeitis with miliary abscesses of the left lobe of the liver.

The authors conclude that, in the dog, division of the sphiloter of Odd gives rise to two types of disturbances. The first is a functional desaugement of the mechanism of bilingry encretion leading to loss of contraction, stasis, and stone formation in the gall bladder and the second an ascending infection from the reflux of dwadenal contents into the common duct. Low M Emurrays M.D.

GYNECOLOGY

UTERUS

Nilsson F Experiences With Adenocarcinoms of the Uterine Cervix (Erfahrungen ueber Adenocarcinoms colli uteri) Acta radiol 1933 xiv #83

The author reviews twenty-aux cases of adenocarcinoma of the cerus which were given primary irradiation treatment at Radiumhenmer Stock holm duning the period from 1076 to 1025. Fifty three per cent were operable. Clinical healing resulted in 64 per cent of the operable cases and 47 per cent of the inoperable cases. A five-year curewas obtained in 19 23 per cent of the entire series, 38 per cent of the operable cases, and 8 per cent of the inoperable cases. Local recurrences developed in 50 per cent, and glandular recurrences and recurrences in the connective these of the pelvis in 50 per cent.

Admocarchomats of the uterine cervix have a marked tendency to become general. The typical and most frequent form of giandular cancer of the cervix does not cause symptoms early. This fact and the tendency of the lesion to become disemil nated account for the relatively low incidence of permanent cures. There is nothing to indicate a low degree of radiosensibility or the necessity for larger doses of irradiation. Nor is there any reason to believe that, for cases of this character surgical treat ment would produce a better result than irradiation therapy alone.

Curtis, A. H.: Coincident Surgical Exposure and Radium Therapy in the Treatment of Extenaire Carrical Cancer Surg., Grace & Obst., 1933 lvi, 1032

In the early days of radium treatment strempts to obtain cures with massive does resulted in a high incidence of destructive lesions of the adjacent viscers often terminating in firstla formation or death. It was learned relatively early that the pelvic viscers are highly susceptible to inpury from radium and that many cervical cancers cannot be cured by radium treatment because proximity of the bladder prevents their efficient irradiation. For several years, therefore, Curth has made a practice of apparating the bladder and displacing it upward to permit more extensive use of radium in the treat ment of the uterine cervix without the danger of causing a vessell situals.

The value of dissection and retraction not only of the bladder but also of the other vulnerable tissuce has become more and more apparent and has eventuated in a comblaed method of surgical erposure and coincident radium application. The suggestions advanced in this article apply particularly to the treatment of cases of cervical cancer in the second stage and the less advanced cases of the third stage.

The necrotic cervical growth is treated by surgical diathermy or prophylactic irradiation at least three weeks prior to operation. Preliminary deep \ ray therapy may serve equally well in healing the

aloughing cancerous surface.

Under aneathesia, a preliminary pelvic examina tion is made to determine the extent of the growth and the amount of intervention required. Exposure of the cancer bearing uterus and adjacent cellular timues is then undertaken. The bladder is mobilized noward by blunt dissection, the cervix encircled by an incision such as is made for a radical vaginal hysterectomy and the vaginal mucosa is painstakingly dissected laterally and posteriorly along the natural lines of cleavage. The body of the uterus and the regions of the broad ligaments and cardinal ligaments are then well visualized. With the organ half delivered vaginally the bladder safely anchored in its elevated position with a catgut suture holding it high on the uterus, and the paracervical timues exposed, a massive radium treat ment is possible Radium needles or radon seeds are introduced where needed, close to or into the cervix or far from it, with the assurance of the safety of adjacent vulnerable organs. After the burying of the radium needles or radon, a chain tandem of radium capsules is inserted into the uterine canal in the usual manner The procedure is completed with a vaginal pack. Irradiation up to 3 500 mc, may be given. ALBERT M VOLLMER, M.D.

Kamniker H.: Postoperatire Recurrences of Cervical Cancer Their Location Symptomatology Diagnosis, Differential Diagnosis, Prophylaria, and Trestment (Diagnosis, Prophylaria, and Trestment (Diagnosis, Political Cardinomi coldi uteri. Schoe Lokalistion, Symptomatologie, Diagnose, Differentialdiagnose, Prophylare, and Therapie) Arch. J. Grandi. 1932, Cl., 330.

This is a detailed discussion of the chinical characteristics of postoperative recurrences of cancer of the cervix. The author distinguishes 4 types of recurrence (1) the local recurrence (1) the local recurrence (1) the acar) which arises because of persistence of the cancer in the field of operation (2) the glandular recurrence (3) the metastatic recurrence, and (4) the implantation recurrence seen by Kamniker local recurrences were found in \$42 glandular recurrences in \$83, metastatic recurrences in 13 and implantation recurrences in 4. In 27 cases it was impossible to classify the type of recurrence.

After the Werthelm operation, 69 per cent of the

recurrences were local and 26 were glandular. After

the radical vaginal operation with bilateral removal of the admess, 55 per cent of the recurrences were local and 30 per cent were glandular. These figures show that non-removal of the regional lymph glands in the vaginal operation did not materially lacrease the incidence of postoperative glandular recurrences. However there was a supprising increase in the frequency of local recurrences after radical vaginal operation in which the adoesa were not removed, the lockdence of such recurrence being increased to 67 per cent whereas after removal of the admess it was only 35 per cent. Hence it seems logical to advocate removal of the admess as even in the contract of

Recurrences appear most frequently during the first year after operation. They are less frequent in the second and third years, but there is no definite time limit for the development of late recurrences.

The histological type of the cancer is of secondary importance in the appearance of late recurrence. However, it appears that it cans of add cancer late the property of the cancer is of add cancer by purpose of the p

The author next discusses the symptoms of recurrences. He emphasizes especially the importance of the condition of the appetite. Women with a good appetite seldom barbor a recurrence. Barked apports is sometimes the first subjective sign suggesting the presence of a recurrence. Early dismoist of recurrence is seential.

The possible findings of paipetton are described. Sometimes blopsy is of skil in the diagnosis. According to Philipp the roemigenogram is often of assist sace. A single determination of the sedimentation time of the erythrocytes is of little value, but the findings of repeated determinations combined with

those of other clinical methods may be of aid. The author presents a detailed description of the prological findings in recurrence. The postoperative cystitle following extensive operations for carcinoms is somewhat physiological and usually disappears in two or three weeks. Nearly always there is also an cedema of the bladder which persists for from one to three weeks. Very frequently there is a considerable amount of residual urine, as much as 40, 60, or even you c cm. Cystoscopic examination discloses deep bladder pouches and, later diverticula-like formations due to cicatricial retractions. It is surprising how often preteral reflux is demonstrated after operation. Radium and X-ray irradiation bring about further changes in the bladder such as petechie and ecchymoses, but these do not indicate recurrence of the cancer. In recurrences there is a hubring of the bladder wall which is followed first

by orders of the wall, later by bullous orders, still later by the appearance of cancerous villl, and finally by penetration of the tumor Bladder pain is nearly always absent. Slight cloudiness of the unine is offer the only always.

Proctoscopic examination may also aid in the diagnosis of recurrence. First, there is a dimpling of the rectum by the recurrence then, an umbilcated retraction of the nuccess later a definite

ordena and finally piceration.

The operative removal of the recurrence is extremely difficult and often nucless. However the author reports a case of eight year cure of a rather extensive local recurrence. Among the indispensable palllative procedures is colostomy. The author does not approve of reaction of the preserval nerve for the relief of pain. He states that in most cases the treatment should consist of irradiation. It is important to administer by the vaginal result since the does of redim irradiation with good filtration and consists of the contract of the c

A care may be considered permanent when it persists for five years after operation. Of the 3/4 recurrences reviewed, 36 (about 10 per cent) were cared. This incidence of euro compares favorably with that reported in the literature. If recurrence not proved by histological eramination are recicied, the incidence of permanent cure was at closed, the incidence of permanent cure was at the contract of the contract

Kamniker H.: Postoperative Recurrence of Cancer of the Carviz. The Clinical Manifestations of the Different Forms (Des postoperative Reider des Carvinoma coll start. Khaik der einstess-Ernchelauspformen) Arch (Fraser 1011 ed. 195.

In this contribution, which is intended to supplement an earlier, general article, the author describes in detail four types of postoperative recurrence of cancer of the cervit with regard to their clinical and reentgenological characteristics. The four types are (i) the local, (i) the lymphgiand, (i) the implantation, and (4) the metastatic the article is based on cares of cervical cancer treated at the Pelam Clinic and carefully studied and followed over a period of years. The chief subjects considered are the early diagnosts, differential diagnosts, prognosis, and treatment,

The local recurrence may appear in the vaguain the middline behind the vaginal stump, in the parametrium, or in the interesserial ligaments. It is most apit to occur in the vagina when, lastead of the radical operation, simple hysterectomy with removal of little or none of the vagina has been done. Vaginal exturens are not rare and have been observed as long as fourteen years after operation. In the state of the last of the last of the last of the radical for a long the last of the results of the renew with being granulation these arise only in the first two years after the operation. Later the condition must be differentiated chiefly from radium ulcer A correct diagnosis is important as in cases of radium ulcer the combined radium and roentgen irradiation which is advisable in cases of cancer recurrence only increases the necrosis and leads to fistula formation. A permanent cure may be expected in about to per cent of cases treated by irradiation. Fifty-seven per cent of the patients

dle in the first year The median local recurrence may invade the yagina secondarily and may early involve the blad der and rectum because of its close proximity to them This type of recurrence is frequent especially after the less extensive operations. As a rule it appears within a year, but in 15 per cent of the cases reviewed by the author it was first noticed fifteen years after the operation. The most im portant symptom is difficulty in defection. Obsti pation persisting for from six to eight days in spite of the administration of strong cathartics is not uncommon. In the differential diagnosis inflam matory processes must be considered, but as a rule can be easily ruled out because of their more severe pain. The results of combined X ray and radium therapy are poor probably because of the rapid growth of the recurrence beyond the limits of a

from 5 to 8 per cent of cases at the most. The parametrial recurrence develops from cancerous nodules which have remained on the ureters the stumps of the uterine arteries, the bladder, the rectum, or the stumps of the uterine ligaments. It is not frequently observed after conservative operations. It is the most common type of recur rence and usually develops very early after the operation. The results of treatment are very good because, especially in the beginning the cancer nodules are situated so close to the vagina and rec tum that they are readily accessible to urradiation. Of the cases reviewed early and complete irradia tion therapy resulted in permanent cure in about so per cent. However the author admits that there is reason to doubt the cure as the diagnosis of "beginning recurrence was not proved by histological examination. Operation for these recurrences was rejected because of the difficulties which would be encountered after the previous radical operation.

local lesion. A permanent cure is obtained in only

Recurrence in the uterosceral ligaments is a variety of parametrial recurrence, but has a very unlavorable prognosis. Of the cases reviewed a permanent cure was obtained in only one. Lymph-gland recurrences are divided into those

comming (1) on the pelvic wall, (2) in more distant glands, and (3) in the inguinal glands. The pelvic wall recurrences arms in the lower hypognatric glands and cause characteristic symptoms by compressing nerves which supply the lower extremities and the ureter on the same side. Treatment of such recurrences is practically useless as the application of radum is almost impossible on account of the location of the lesion. If the glands are still mobile their removal may be attempted by lapse rotomy possibly combined with abdominal radum

surgery Of the cases reviewed a permanent cure was obtained by irradiation in only 7 per cent. Eighty per cent of the patients died within a year

after the appearance of the recurrence

Recurrence in more remote glands is much less common than recurrence on the pelvic wall. It involves first the higher lymph glands in the region of the uterus. The author has found recurrences of this type only after radical operation particularly abdominal interventions. Twenty-seven per cent developed five years after the operation and some were not observed until after nineteen years. The treatment is early operation or \(\times \) ray therapy has not yet cured a single case. In the cases reviewed, most of the patents were caused by unemfa due to compression of the uterter

The development of a recurrence in the inguinal glands as the only recurrence after operation is at tributed by the author to the postoperative change in the lymph flow. As a rule recurrences of this type develop early. In the treatment, the combined use of the X rays and radium comes up for consideration but in early cases operation is to be preferred. The prognosis is poor because metastases have usually already occurred in a vital organ. Of the cases reviewed, a permanent cure was obtained in only one.

The implantation recurrence develops, according to the operation performed, in a Schuchardt ind alon or a lapatrotomy scar. When it occurs in the Schuchardt incision the author recommends operation only when it is very isolated and movable. In all other cases he recommends combined irradiation. However the results of both methods are poor. In none of the cases reviewed was a perma nent cure obtained. In uncomplicated cases of implantation recurrence in the abdominal wall the prognosa is relatively good.

Metastatic recurrence developing as the first recurrence after a radical operation is rare. It usualivappears within three years after the operation. Its location varies. Treatment is practically useless.

In conclusion the author discusses a number of cases in which several recurrences developed at multaneously

P CAPTER (G)

ADNEXAL AND PERIUTERINE CONDITIONS

Regad, J : A Study of the Pathological Anatomy of Torsion of the Fallopian Tubes (Etnde anatomopathologique de la torsion des trompes uterines) Grade et cent 1933 Exril, 519

Although the literature contains many reports of cases of torsion of the fallopian tubes pathological studies of the condition have been few. The author describes the macroscopic and microscopic changes which result from torsion of normal and diseased tubes, the effects of the torsion on adjoining organs, and the end results, such as spontaneous amputation or unfaiteral disappearance of the adners.

In torsion of the diseased tube the smos findings are usually outte characteristic. The twisted tube may occurs various sites in the pelvic or abdominal cardly but is althated most commonly to one side of the atoms and descends more or less completely into the cul-de-mr. Tordon appears to occur more frequently on the right side than on the left. Of tor cases seen by the author the right tabe was involved alone in 60 per cent and the torsion was bilateral in cases. The twisted tube navally has a characteristic violaceous, blue-black color constrone has developed, the surface presents areas of a greenish hue. The tube varies considerably in size and consistency depending upon the nature of the disease process which preceded the torsion and upon the time which has elapsed since the twist occurred. Its size may vary from that of a large nut to that of an adult a beed. The most frequent causes of torsion of the fallonian tubes are tumors crats. and tubal contations occupying the distal ends of the tubes.

The twist occurs most commonly in the region of the inthmus. The tube may be involved alone or the overy with its vessels, nerves, and ligaments may be included in the pedicia.

The derree of twisting ranges from complete constriction with infarction and subsequent amoutation to simple torsion without circulatory disturbances. Most commonly from 14 to s or 6 turns are found, but as many as 15 complete twists have been reported. Pathological changes (thrombosis, ordeme multiple hemorrhages) result in an increase in the size of the overy which often leads to depeneration and detachment. Adhesions to the pelvic viscers and intestines are not uncummon. Finid is usually present in the peritoneal cavity. The fluid may be canculateous as the result of tubal anonless or a clear evodate or transplate. The other adoesa may be normal or similarly affected. Histologically, the changes produced in the tubes consist chiefly of hamorrhage, ordens, infarction, capillary or venous stash, and degeneration resulting from direulatory impairment.

Of the sor cases of torsion observed by the author, the tubes were considered normal in 23 per cent and the torsion occurred on the right side in 68 per cent. The gross appearance of the twisted normal tube does not differ markedly from that of the twisted diseased tube. The distal extremity of the tube is usually patent. In general twisted normal tubes are less resistant to the touch and are difficult to recognize by pulpation Their size varies con siderably but generally ranges from that of an err to that of a medium-sized orange. The twist usually occurs just above the ampulla. In the majority of the cases reviewed the tube showed only a twist, but in so per cent from 4 to 6 twists were found. Involvement of adjoining organs may occur although its extent is usually less than in cases of diseased tubes. The cause of the twist can often be deter mined from the state of the other tube, which is usually long and mobile and contains convolutions of a fetal type which often extend to the noint of attachment to the aterns

The problem of determining whether the tubes were healthy before the twist occurred is often difficult to solve. Since secondary infection usually follows promptly after the accident, the presence or absence of an inflammatory reaction is not a sele criterion. Nor is it always possible to determine the presence or absence of other pathological states which may have been careative such as embryonic maldevelopment, abnormal peristalds, and deranged nerve function Histological examination is of little value in ruling out antecedent infection unless it is performed within forty-eight hours after the occur rence of the torsion. However as salpingitis is usually associated with a certain amount of olohor itls, the author believes that in doubtful cases the question of preceding inflammation of the tube can be decided by histological examination of the overy

The security of tubal torsion may be (1) spontaneous cure by untwisting with presible recur rences. (s) chronic recurrences followed by eventual amputation, or (1) complete or partial spontaneous amoutation HARRID C. MACK M.D.

Bustiner A.: Overlan Tomora and Mascullaiza tion. The Arrhenoblestoms of Meyer (Ucber Dienstocksrechwickte mit Lemmenulichens, All henoblestome R. Mercera) Arch. f. beth. April 1011 COTTENTO ALL

Buettner summarizes in a table the st cases of arrhenoblastoma ovarii which have been reported to date. The tumors are divided into the following three groups

The admona tubulare (testiculare) of Pick (a) mature. (b) partially carcinomatous.

s. A middle group with typical and atypical tubular elements and solid elements.

3 Atypical tumors (a) predominantly solid, with atypical tubular elements, (b) solid Following a description of the morphological and clinical peculiarities of the growths, Buettner reports two cases from the service of Esan. The first was that of a woman sixty-six years of age who had one living daughter. The patient stated that her mother had had a very pronounced beard but very thin hair on her scalp. Since her fortieth year the patient had had amenorrhora and a market growth of bair on the face and body Esan reported this case before the ovarian tumor could be demonstrated. Following an observation period of three years the patient was operated upon for incarcers tion of a myomatous uterus and died three weeks later The left overy which was removed at operation, was about the size of a pigeon egg and grayishwhite. Its cut surface was brownish red, damp, and very soft. Beneath the narrow poorly delimited ovarian cortex could be seen a predominantly solid epithelial tumor with strand like villous and tubular portions. This carcinoma-like neoplasm was voly different from the usual carcinoma of the overy It contained no teratomatous elements. On the whole,

the structure differed basically from that of a hypernephroma. There were no fatty substances and no lipoids. The tumor most closely resembled the neoplasm in Sellheim's case, showing only minor differences such as giant-cell formations and a penillary structure. The endometrium was atrophic in an numual degree.

Of the twenty five cases of arrhenoblastoma reviewed, myomata were found in five. The tumor in the case reported by Sellheim and in the Bingel Schultz case most closely resembled the tumor in the case reported by the author as regards atypical

structure

The second case reported by Buettner from Esan s service was that of a pare lii twenty-six years old who was in the eighth month of pregnancy and had had a marked growth of bair on the chin since the first month of pregnancy Operation performed ten days after delivery disclosed two large growths at the sites of the ovaries a small tumor in the omen tum, and the presence of ascites. Four months later the beard had disappeared. On histological examination, the tumors showed numerous epithelial strands of vesicular seal-ring-like" cells. They were diagnosed as Krukenberg tumors secondary to a gastric cancer Eighteen months after the operation a recurrence developed—an inoperable gastric car choma with omental metastases (adenocarcinoma) The adrenals were not examined as permission for autopsy could not be obtained.

In conclusion the author says that there is thus far not a single satisfactorily studied case which supports Halban's theory. Nevertheless we must still bear in mind the possibility that tumors other than the arrhenoblestomate in the overy may also R. Meyer (G)

cause masculinization.

Moench, L. M : A Clinical Study of 403 Cases

of Adenocarcinoma of the Overys Papillary Cystadenoma, Carcinomatous Cystadenoma and Solid Adenocarcinoma of the Overy Am. J Obst. & Gynec., 1935 xxvi 22

This study includes all cases of clinically malig nent admonia of the overy considered operable in which operation was performed at the Mayo Clinic in the period of eleven years from January 1917, to December, 1927, inclusive. Extensive recurring car cinoma and abdominal carcinomatosis considered inoperable in cases in which only exploration was undertaken were excluded.

Adenocarcinoma of the ovary is most frequent in the fifth and sixth decades of life. The average age of the patients with popillary cystadenoma was forty-six and nine-tenths years, of those with car cinomatous cystadenoma, forty-six and seventy three hundredths years and of those with solid adenocarcinoma, forty-eight and thirteen hundred tha Lean.

There are no characteristic symptoms of adenocarcinoms of the overy Abnormality of overlan function was manifested by disturbances of mension

ation.

Of 488 patients who were traced 50.70 per cent were living and 40.20 per cent were dead at the time of the follow-up three or more years after the operation. The proportion dead was lower among nationts who had papillary cystadenoma than among those who had carcinomatous cystadenoma or solid adenocarcinoma.

Of the tumors without metastasis, 24.81 per cent were bilateral. The proportion of patients who were dead was larger among those who had bilateral growths than among those who had unilateral growths. The length of life after operation tended to be shorter in cases of bilateral growths than in those of unilateral growths.

The mortality was 22 22 per cent in the cases in which only one overy was removed and 20 80 per cent in those in which both ovaries were removed.

Intracystic malignancy was less likely to recur than extracystic malignancy The mortality from recurrence of intracystic growths was 11 53 per cent, and that from recurrence of extracvatic

growths 28 20 per cent.

In cases of ruptured pseudomucinous cystadenoma with peritoneal involvement the mortality was high. Of the patients with ascates, 56 96 per cent were dead at the time the study was made. Of the patients without apparent metastasis, the proportion living was higher than the proportion living of those with apparent metastasis. Of the patients with metastasis, 30 50 per cent were living at the time the study was made. The proportion of patients living at the time the study was made was higher among those who had pelvic metastasis only than among those who had both pelvic and abdom inal metastasis.

Lissowetzky V: The Oncetton of So-Called Car cinoma of the Correta Luteum (Zur Frage dea sogenannten Carcinoma des Corpus luteum) Arch f path Anat. 1933 columnii, 197

The author reports an ovarian tumor which oc curred in a woman forty-six years old. Menstruation was normal. The patient had two living children. Bilateral ovarian tumors and a metastasis in the broad ligament were removed. Death occurred five months later from cachexia and multiple metastases. On microscopic examination one of the tumors was found to consist of elements which resembled luteal cells.

On the basis of his researches, the author comes

to the following conclusions

1 Every tumor and especially every malignant tumor must be regarded as the local manifestation of a special condition of the organism. Especially malignant neoplasms must be studied both morphologically and pathophysiologically (clinically) in their relationship to the bost to the organism as a whole (phenotype and genotype) which is affected by its particular environment (mode of living, occupation)

2 Among the neoplasms of the overs (an endocrine gland) those which consist of cells morphologically similar to the components of the corpus luteum constitute a distinct group.

 Fat stating of such tumors shows that their cells contain lipoids. In the case reported microchemical and microphysical studies demonstrated that the lipoids in both the tumor cells and the surrounding innernot were phosphoticide.

4. As the tumors are formed by immature cells which contain phosphatids and are proliferating rapidly their origin is apparently related to the carliest stages of development of the corpus luteum and such tumors probably have no influence upon either the neuron or meaningtion.

5 The unusual matignancy of such tumors is to be attributed to their origin from the cells of the corpus luteum in the first stage of their development, i.e. from cells which are very immature and possess the ability to prodiferate extensively.

6 Timors formed from the embryological pumitive tissues of the organ of Internal secretion are silvays peculiar. They possess a secretory function and are apparently not true tumors. They should be classifed in a distinct group and given a common name such as strumats. The tumor in the case reported may be best described as a "struma ovaid luteinocellulare malligue bilateris."

HARS OTTO NEUMANN (G)

EXTERNAL GENETALIA

Jeanbrau, E. Five Difficult Vesicoveginal Fistulia Cured by Vaginal Operation in the Depage Poation (Cho fistula: éstovaginales difficiles godries par l'opération ginale es position de Depage). J Ésral abil et la 1023, 2022. 331

The author operates for vesicovaginal fatula with the patient placed on her addomen with the sarrom elevated the so-called Depage position. In this position the anterior vaginal wall is well exposed, is addition to this position, certain other technical is addition to this position, certain other technical precautions are necessary to assure a vocasiful rault. The most important is a superspoble cystotomy at the first step of the operation introduced by Marion. To keep the operative field as dry as positive, the subtor appages the bleeding fissue with small tampons asturated with a x x,000 solution of adversalin.

Following a detailed report of five cases of obstet rical vesicovaginal fistula which he cured by operation, Jeanbrau draws the following conclusions

r \ \text{ceicoraginal} \ \text{fixtule due to operation (hysterectomy) abould be operated upon by the transpertioneal route (Dittel Forgue technique) or the transpertioneo-transvesical route (Legueu technique)

2. High obstetrical fishule are operated upon best by the transvesical route (Marion technique) 3. Low obstetrical fastulæ should be operated upon by the vaginal route with the parient in the

upon by the vaginal route with the patient in the Depage position which facilitates the operation and favors a successful result.

Issae Assusumes M.D.

MISCRILATERATIS

Jayle, F.: Parthenology or the Study of Diseases of the Genital Tract of the Virgin (La parthénologie ou l'étude des maladies de l'apparell génital cher la yerge) Compter render Sec. Jenet, 45, prok., 1931.

Diseases of the genitalia of the virgin are not infrequent. They have the peculiarity of being based largely on congenital maiformations, deriance tion of the ovaries or other glands of internal accretion and the general physical condition.

secretion and too general physical condition. In fection is of secondary importance in their development.

Although a complete examination is essential for accurate diagnosis, it appears that pelvic examination is often omitted. The author reports cases to show the gross errors in diagnosis and treatment

that may result from failure to make a pelvic examination.

Among the symptoms of pelvic disease in virgins is leucorrhors. This is never mucinous, but usually milky yellow or green. As a rule there are irrerularities of meantmatton, Pain is sult un-

common.

The lesions which have been observed and are described include articure of the internal os, byper trophy and ulceration of the cervis, endocervicitis, uterine displacements, gentlat hypoplasis, and hyperplasis of the endometrium. The endometrial byperplasis is often polypoid and may have a defined the control of the control of the complete described in the control of the complete described in the control of the complete described in the control of the contro

discovered.

Jayle warms against assuming that all discharges
in recombly marided women are gonorrhord, as the
history will often reveal that the discharge has been
present for years and has been merely aggravated by
marriage.

In the discussion of this report Collarza stated that gynecological diseases of the virgin constitute an almost untouched field. He believes that infection plays a more important role in their development than Jayle ascribes to it.

JULIEN said that he also regards infection as an important factor. The organisms most commonly found are the colon bacillus, the staphylococcus, and the enterococcus.

Douar cited a case of carcinoma in a gid fourteer years old which, when discovered, had reached as inoperable stage because of the reluctance of the attending physician to make an examination through the hymen.

Burger P : Postmenopeusal Blacding and Exploratory Curettage (A propos des hémorthages spets la ménopeuse et du curettage exploratest) G + calegia, 1933 xxxii, 189.

The author was prompted to make the study berewith reported by articles published by Faure and Ducking in 1930 and 1932 in which the practice of diagnostic curettage in cases of postmenopausal bleeding was condemned. The reasons given were as follows

- I Curettage is useless because in most cases, postmenopeusal bleeding is readily recognized clini cally as being due to carcinoma.
 - Even though carefully performed, curettage may not include small malignant areas.
- 3. Delay pending histological examination of curettings is costly
- 4. Perforation of the uterus and uteripe infection are not uncommon accidenta.
- 5. Hysterectomy is preferable because after the menopause the uterus is a useless organ and therefore should be removed if it is at all diseased even when it is not frankly cancerous. Immediate hysterectomy (especially by the varinal route) provides unmediate relief and efficient cancer prophylaxis with minimal riek.

From a study of ninety cases of postmenopausal bleeding observed over a period of four years Burger draws the following conclusions

r Except in cases of cervical carcinoma malig nancy is not the most common cause of postmenopausal uterine bleeding. In the cases reviewed the incidence of malignancy was only 37 03 per cent as compared with the incidence of or per cent reported by Ducuing and the incidence of 90 per cent esti mated by Faure.

s Even though malignancy was not the most common cause in the cases reviewed every case of postmenonausal bleeding should be considered due to carcanoma until this condition is ruled out.

3 Early diagnosis with the aid of exploratory curettage followed by appropriate early treatment by operation or irradiation is the only means of obtaining good results

4. In the majority of cases exploratory curettage is the only means of armying at an exact diagnosis.

It is an indispensable aid in gynecological practice and permits the surgeon to proceed with full knowledge of the condition he is treating. Accidents resulting from curettage are too rare to necessitate abandonment of the procedure

5 Of 325 cases of uterine harmorrhage occurring during the menopause carcinoma of the cervix was found in only 1 77 per cent and carcinoms of the fundus in 37 per cent. Carcinoma of the fundus is therefore an important factor during, as well as before, the menopause Curettage and histological examination of curettings offer the only exact means of early diagnosis and will reduce the number of un necessary hysterectomies which are performed for beingn causes of uterine bleeding

HARGLD C MACK, MLD

ORSTRTRICS

PREGNANCY AND ITS COMPLICATIONS

Young, A. M., and Hawk, G. M.: Primary Ovarian Pragnancy Am J. Out. & Gyme. Over xxvi. or

Three weeks after her last menstrual period the subtor's patient bled vaginally for seven days. She was nausested and had painful breasts. Twenty-two days later the experienced excrucating low abdominal pain which rapidly extended upward across the abdomen to the subcoural region. She was nause ated, but did not vomit. On her admission to the booptial seven hours later abs aboved typical signs of an ectopic pregnancy. At operation the right ovary and tube were found fixed in the cal de-sac. The ovary contained a large hemorrhagic mass containing a small fetus. The patient recovered in ten

When the overy was reconstructed it formed a roughly spherical mass measuring approximately 5 by 4 by 4 cm. Along the external surface of the man there was growly recognizable ovarian tissue with a characteristic corous luteum measuring approximately ald cm. in long diameter The collar of yellow lutein timpe was approximately 4 mm in width. The corpus buteum overlay a mass of reddish. brown friable tissue grossly suggesting placents and blood dot which in part occupied the cavity of the corpus luteum. In the central portion of the mass of placental tissue there was a fetal sac about a cm. in diameter which was lined by amouth transparent membranes. The fetus was separate from the sac and well formed although somewhat macerated. It measured so mm. from crown to rump and so mm full length these measurements corresponding to those of an intra-uterine fetus from fifty to sixty dave old.

The microscopic sections, which confirmed the diagnosis, disclosed a decidua like tissue in the overy EDWARD L. CORRELL, M.D.

Schlossmann, H.: The Exchange of Material Between Mother and Fetus Through the Placenta (Der Stoffanstausk switchen Mitter und Frucht durch die Placenta) Brooks & Physiol 1933 2332 741

The author begins with the old debated question as to whether the piacents, which, in the mammal, provides for the exchange of material between the mother and fetus, acts only as a passive layer of separation between the maternal and fetal blood or has an active function of some sort which makes possition to the fetal blood and vice verus. To answer this question, the following subjects are discussed the morphology of the placents, the ways by which material is exchanged between the mother and fetus, the metabolism of the placents, the reaction of the blood vessels of the placents and the umbifical cord to stimuli, and the experimental methods for the favestigation of the erchange of material through the observis.

With regard to the exchange of material through the placents the author discusses the exchange of gases between mother and fetus, the communition of oxygen by the fetus, the passage of carbohy drates, protein, lipoids, and fat through the placents, and and the permentility of the placents to bormones, vitamins, saits, and other normal elements of the material and first albeids and to sites multipleare.

ternal and tetal blood and to alten subs The conclusions drawn are as follows

There are many substances which ness through the placenta from the mother to the fetus and vice versa by diffusion or filtration. The passage of no single substance through the placents can be explained merely by the automotion of a vital function of the chorionic enithelium. The stage of development of the placents influences the exchange of material only as regards the time it requires. It is logical to assume that the entire exchange of material between the mother and the fetus takes place through the placents as a physical process without any vital co-operation on the part of the chorionic epithelium. It depends only upon the physical conditions whether or not any substance can penetrate through the human or mammallan placenta. An emphatic stand is taken against Hofbauer a theory of an active co-operation of the vi tal powers of the chorionic epithelium in the exchange of substances between the mother and fetus. At tention is called to the fact that certain substances undoubtedly pass from the maternal circulation into the fetal circulation by diffusion or filtration. For the passage of other substances which cannot be explained in this way Hoeber suggests the term According to his theory physical permeability non lipoid-soluble substances ress through the pores between the individual cells of the membrane while lipoid soluble substances are taken up by the lipoid portions of the cell membrane. For the electrolytes as well as for all dissociated substances, differences in the electrical charges of the cellular borderlines instead of lipoid solubility and molecular size are the important factors. Under certain conditions these differences may explain even the process of the directed permeability that is, per meability in only one direction. Therefore, if physical processes, which are based ultimately on labile bio-electrostatic conditions of balance or displacement, are considered as being produced by vital powers, then, in this sense, the piacenta and chorionic epithelium respectively have vital powers also. However these powers are by no means organspecific, but are inherent in every cell layer of the ROMEROEBECK (G) organism.

Siddall, R. S., and Mack, H. C.: Weight Changes in the Last Four Months of Pregnancy Am J

Obst. & Gyrec. 1933 XXVI, 244

Weight changes calculated from periodic observations during the last four months of pregnancy showed many and extreme variations from the average. Parity and body build (height weight ratio) was of little or questionable influence in the causation of these variations. Age had some effect (younger women gaining more than older women) regardless of panty and body build but failed to explain the majority of the deviations from the average.

An excessive gain at some period or periods was noted in the majority of cases of late toximia of pregnancy It occurred before the onset of definite signs in two-fifths of the cases of toxiemia but was found to occur with the same frequency also in normal pregnancy

Therefore in the relatively small series of cases studied an excessive gain in weight was of question able value in the early recognition of impending toxemia. EDWARD L. CORPULL, M.D.

Kühnel P Placental Chorio-Angioma sort et gynec Scand 1933 viit, 143

In a review of 163 cases of placental chorioangioma collected from the hterature the author found that the condition occurs once in 900 preg nancies. The tumor may be as small as a hazelnut or as large as a child s head, but as a rule it ranges in size between that of a walnut and that of a man darin orange. In 87 of the cases reviewed it was on the fetal surface of the placenta in 18 it was mar ginal in 14 it was embedded in the substance of the placenta in 18, it protruded on the utenne surface and in 18 it was connected with the placenta merely by a vascular stem. The location of the tumor and the frequency of involvement of the various sites are shown in tables.

Multiple chorio-anguomata in the same placenta are rare.

In the presence of a chorno-angioma the weight of the placenta is high. In 15 of the cases reviewed it was greater than 1 000 cm. The maximum weight on record is 1 850 gm.

The morphology and histology of chorio-angi omata are discussed. According to the definition given by Cohnheim, chorio-angiomata are true tu

mora.

larious problems with regard to the etiology and pathogenesis of chorio-angiomata are discussed. In this connection the 18 pedanculated chorlo-angle omata reviewed are of particular interest as they appear to support the theory advanced by Albert in 1808 that chorlo-anglomata originate very early in the embryonic stage.

The age of the woman does not appear to be a factor in the appearance of chorio-angiomata.

Chorlo-engioms is associated with hydramnios so often (in 41 of the 163 cases reviewed) as to suggest some connection between the two conditions

Hydramnics, premature rupture of the mem branes, weakening of the pains atonic postpartum hemorrhage, and less frequently retention of a pedunculated chorio-angloma in the uterus con siderably increase the risk of morbidity in cases of chone-angroma.

The prognosis for the child is decidedly less favorable in cases of chono-angioms as one-third of the children are stillborn or so premature that they die within a few days after birth.

In conclusion the author reports 8 cases of his

Campbell R. E. Pregnancy and Labor Complicated by Myomatous Tumors of the Uterus. Am J Obst & Gynec., 1933 xxvi, 1

The incidence of myoma in 32870 pregnant women was 0.43 per cent (142 tumors) Eighty two of the 142 fibroid tumors, were of sufficient im portance to complicate pregnancy labor or the puerpenum. The tumors were more common in colored women than in white women, and in primipare than in multiparse They were found most frequently in women between the ages of thirty five and forty five years.

Sterility premature labor and immature birth were closely associated with the complication There is doubtless a relationship between uterine myomata tumor and sterility Immature birth and premature labor occurred in 25 per cent of the cases. Mild discomfort was noted during the pregnancy Severe symptoms frequently necessitated obstetrical and surgical procedures. Labor was often tedlous, painful, and prolonged. Early rupture of the membranes occurred in 37 per cent of the cases and disturbing hæmorrhage in 31 per cent. Adherent placents was found in 8 cases. In 26 cases there was poor involution of the uterus. Infections were not uncommon. Major surgical operative interference was necessary in 31 6 per cent of the cases, and obstetrical operative procedures were carried out in 14.6 per cent. The total incidence of operative procedures was 46 2 per cent. Necrosis was found in 75 8 per cent of the tumors removed during preg nancy and 7 81 per cent of those removed from nonpregnant women. Campbell believes that infection is not sufficiently emphasized in the literature as an added danger in cases of pregnancy complicated by fibroids.

The gross fetal mortality in the cases reviewed was 28 per cent, the gross fetal mortality in cases treated surgically 33 per cent and the gross maternal mortality 3 65 per cent.

A better understanding of the obstetrical prin caples involved in the complication of pregnancy by fibroid tumors has led to improvement in the treat ment of the condition. In certain cases delivery by the surgical operative route notably crearrean sec tion or carsarean section and hysterectomy is

substituted for an attempt at delivery by the vagina.

A clearer conception of the relative importance of accross and infection and early recognition and proper treatment of both have saved many lives. The ability to evaluate and treat less serious, though important, complications, such as early reputer of the membranes and sterine inertia and subinvolution, and the prevention of unnecessary obstetrical manipulation have greatly improved the prognosia.

Everator L. Construct, M.D.

Orley A. The Evolution of X Ray Pelvimetry Brit. J. Radial 1933 vl., 345.

Only reviews the eight methods of \(\text{V-ray pel-views}\) the have been used since the first ment genogram of the pel is was made by \(\text{V-ariser}\) arrier and \(\text{Cappus}\) in 1566. The methods are the comparative the telepromagnospic, the mathematical, the stereoscopic, the method based on the principles of localization of foreign bodies, Alberts method the frame method, and the lateral method.

The mathematical method is simple and accurate. but because of the calculation involved has not been popular. Albert a method, in which the plane of the pelvic brim is brought parallel with the \ ray plate, has a very small possible maximum error Thoms has worked out a modification of the frame method and has suggested that the roentgenogram be made from the lateral angle. Orley believes that this technique will give good results so far as the diagonal conjugate is concerned. In Thoms method the distance between the tip of the fifth lumbar vertebra and the X-ray table is measured by means of a caliper the height of the symphysis is measured by means of a lump-bob hung from the tube and the pelvis is roentgenographed with the patient in a semi-reclining position. The patient is then removed and a calibrated lead plate is placed in the plane of the pelvis as defined by the callpers and the plumb bob and a flash exposure is taken. HENRY S. ACKEN IR., M.D.

Voron, J and Pigeaud, H.: The Syndrome of Severo Albuminuria With Hydropa Durling Fregnancy (Syndrome delbumineries à forme hydropighes a coan de la gestation) Gyak at old 93; xxvll, 35;

In a period of six years the authors observed in cases of albomiusta associated with chiefule retention and extensive codema during pregnancy. The blood pressure and the blood littergen were always normal. The cause could not be determined as none of the patients presented evidence of long standing renal damage. In two cases the albumbursta recurred during two successive pregnancies. In one case, because of repeated abordioms, sphilin suspected. In greats, however the syndrome different formal personal without evidence of preceding and impairment only in the degree of the albumbursta and orderns. Totic symptoms characteristic of pre-celampta and eclamptas (beautache, certific of pre-celampta and eclamptas (beautache, certific of pre-celampta and eclamptas (beautache, certific of pre-celampta and eclamptas (beautache,

vomiting, visual disturbances, and sensory disturbances) were noted in three cases. In one of them, severe convulsions occurred ten days prior to delivery. Recovery from these symptoms was rapid following delivery and all of the patients left the hospital in good conditions entirely free from ordems and with the albuminutia greatly dimaished.

The authors are of the opinion that the symptoms of eclamosia are due to chloride retention. These symptoms are much less severe in cases without hypertension and increased blood nitrogen than in those with albuminuria associated with hyperten sion. In the cases reviewed delivery occurred prematurely (more than fifteen days before term) The premature infants were markedly underweight, but were born alive and left the hospital in good condition. In two cases in which delivery took place near term, the inlants were stillborn, one soc cumbing before, and the other during, delivery Since four of six infants were born alive, the authors conclude that the prognods for the child is not particularly grave in these cases. However they behave that labor should be induced prematurely as prolongation of the pregnancy is a hazard to the fetus. HAROLD C. MACK, M.D.

Kulka, E.; Further Investigations Regarding Bacterisemia During Normal Pregistry and Early in the Afebrile Puerpertum (Weiter University and Propertum of Proceedings of the Control of the Afebrile Procheoches and Principles of the Afebrile Procheoches Dett.) dr.k. f Grosse raye file. 155.

The author previously reported that bacteris an be demonstrated in the blood stream in about 18 per cent of cases of normal afebrile delivery Recently be repeated the experiments, making cultures of the maternal blood and of blood from the unbilled cord in sixty two unselected cases. Bonillon and blood-agur pates were used. On the second day the bonillon cultures were replanted and the organisms fround were differentiated.

Control media similarly incubated and cultures made on the third day after delivery remained sterile. The blood of the mother was positive in thirty-one (so per cent) and the blood of the faint was positive in twenty-even (43 per cent), of the cases. The organisms found in both bloods were hemolytic and non-hemolytic streptococci, colon bacilli, Gram-positive diplococci and some unidentified becilli.

E. Penur (6)

LABOR AND ITS COMPLICATIONS

Léon, J and Diradourian, J: The Action of Injections of Quinins on the Uterus During Labor (Acción de las invecciones de quinina sobre el étero en trabajo) Sreams mét, 1933, xl, 1931-

The authors review the conflicting opinions on the oxytocic action of quinine and report a clinical experimental study by the method of external hysterography Sixteen women (primipare and OBSTETRICS 449

multipare) from eighteen to forty years of age were given quinine subplate on hydrochloride intranuscularly. The total amount of the drug never exceeded o 75 gm. Kymographic records were made before and for a variable period after the injection. In some cases they were made until the placenta was expelled. The cases included normal labors premature rupture of the membranes, primary and accondary inertia, irregular rhythm, and marked oscillation of the uterine tomis. Cases of decided hypertonicity were excluded. The histories are reported in detail and in tabular form and the tracture in each case is presented.

The results show that, on the whole qualine has only an insignificant influence on the dynamics of the uterine body. In some cases there was a slight increase in the intensity, frequency and regularity of the contractions but in other cases no effect was apparent. The graphs did not show the descent of the shacessa which is considered by some French obstetricians characteristic of the effect of quiline.

On the other hand, in more than half of the cases the quinne caused the cervix to dilate with considerable regidity as if it had an antapassmodic action. When dilatation was progressing very slowly it proceeded quickly after the injection

The results agreed with the recognized inconstancy of the action of the drug and the general opinion that it is efficacions only when labor is somewhat advanced. When the contractions were particularly irregular and the oscillations of tonus were accentuated, the quinne was almost always ineffective or disturbed the dynamics even more and affected the fetus unfavorably. During the expul sive period, piluitary preparations are far superior in the third stage the quinine caused poor contract too of the uterus with relative frequency. These experiments do not authorize the use of the drug in hyposystole with accentuated hypertonicity we have other much more adequate resources for this condition.

In summarizing their report the authors state that quinine is indicated during dilattion in cases of relative or absolute insufficiency and in dynamic anomalies characterized by alight spaam of the cervix. The investigation reported demonstrated once more the value of the graphic method in the study of uterine dynamics with special reference to the action of dress.

The article has a comprehensive bibliography
MARY FLUARETS MORES, M.D.

PUERPERIUM AND ITS COMPLICATIONS

Rivett L. C., Williama, L., Colebrook, L., and Fry, R M Furppral Faver A Report upon 533 Cases Received at the Isolation Block of Queen Charlotte a Hospital Free Ray See Med Lord, 1033 2xrl, 1103

The cases of pumperal lever reviewed by the authors included cases registered in the in patient and out patient services emergency cases, and cases sent in after delivery. The incidence of serious in

fection was higher among the registered patients delivered at home than among patients of the same class delivered in the hospital. Nearly 50 per cent of the patients admitted to the hospital had had normal deliveries. The mortality in this group was just under the average for the whole series.

The authors believe that puerperal sepsis orig mates as a local wound sepsis and that early diag nosis of the site of the local sepsis and careful bac teriological study will considerably reduce the mortality When the lexion can be confined to one locality there is no mortality but when the infection apreads to the pentoneum or blood stream (either as septlemms or thrombophlebitis) the mortality is very high. However in many cases pentonitis or thrombophlebitis may be present without causing clinical symptoms which may be considered pathognomonic. Thrombophlebitis seems to be associated narticularly with an anaerobic streptococcal infection. The mortality of septicemia varies with the organum present. It is highest, 86 per cent, when the septicemia is due to the streptococcus, and lowest 20 per cent, when the septicemia is due to the colon bacillus. The authors believe that in most instances septicemia is secondary to peritonitis or thrombophlebitis, and that constant re-infection from such a source nullifies the use of blood-stream antiseptics.

As treatment for peritonitis, they advocate very early drainage following a diagnosis made by exam instion of peritoneal exudate obtained through a small abdominal incision.

HENRY S ACRES IR M.D

Colebrook L. and Hare R.: The Anatropic Streptococci Associated with Puerperal Fever J Obst & Gynac Brit Emp. 1933 xl, 609

The authors studied a large number of anaerobic streptococci foolated from the uterus and the blood of women with puerperal sepaia. Their method of cultung which is described in detail, obtained strictly anaerobe streptococci from the blood of forty women and pyogenic streptococci from the blood of stry women.

Bacteriological and serological studies showed that two types of anakrobic streptococci or one type of anakrobic streptococci and other organisms were frequently present at the same time in the dremisting blood. Streptococcus progenes was seldom associated with anakrobic streptococci in these multiple blood infections.

When the alkali reserve of the serum was abolished or reduced or when the antitryptic power of the serum was neutralized the anaerobic streptococci grow luxuriantly

After the third day of the puerperium the serous boths abowed a markedly reduced alkah reserve or an actual addity and a loss of antitryptic power. These changes allowed haurious growth of the anakrobic streptococcus. The addosis in the tunnes which favors bacterial growth may be emilained by

the ischemia of the uterine wall occurring during the first week of the puerperlum.

On the basis of colonial characteristics, four chief types of anaerobic streptococci were identified. Two types occurred frequently and two infrequently Blochemical and serological tests were of no value in differentiating the anatrobic streptococci, but the authors believe there were probably a number of A.F LAST, M.D. serologically distinct types.

Loud, 955, 227, 1 75. The authors review a series of thirty-six cases of peritonitis following puerperal fever Twenty-five of the women died and eleven recovered. All but seven were operated upon. Those not operated upon were moribund when they entered the hospital. The oper

ation consisted of drainage through a large inciden

Oldfield, C. and Pyrah, L. N : Observations on the Pathology Diagnosis, and Treatment of Fuer petal General Peritonitis. Proc. Rey. Sec. Med.

in the abdominal wall with, in a few instances, supplementary drainage through the cul de sac. Pertonitis occurred more frequently after labor than after abortion.

When the peritonitis develops during the first four days after labor the infection is severe and usually fatal. When it develops later there is hope of localization and consequently a good result.

The physical signs may be comparatively slight except for gradual deterioration of the general codition. No symptom can be considered pathog nomonic

The authors regard early drainage of the peritonesi cavity as an important factor in the cure of the disease. They do not advise hysterectomy. They state that local foci of infection in the pelvis should be packed off and then incised for evacuation of the pus. They believe that puerperal peritonitis is more often a local disease than a terminal condition in septicemis. HENRY S. ACKER, JR., M.D.

GENITO-URINARY SURGERY

ADRENAL KIDNEY, AND URETER

Luccioni, F : A Study of the Combined Approaches in Wounds and Contusions of the Spicen and Left Kidney (Étude des voies d'abord combinées dans les plaies et dans les contudors de la rate et du rein sauche) Arch d. mal d reins et d organes génito-urinaires 1933 vii, 307

The combination of severe injunes of the spleen and left kidney is extremely serious, the mortality ranging from 50 to 71 per cent. The signs of aplenic lacerations are variable. Most important are the evidences of shock and blood loss. Added to these are tenderness and speam of the abdominal wall and fullness or duliness in the left flank from the collection of blood therein. Injuries of the kidneys are generally manifested by the early appearance of hæmaturia. Combined inpuries of the spleen and left kidney may be associated with miuries of other VISCEIR.

In the approach to a combined injury to the spleen and left kidney the incision should be sumple but must give adequate room for exploration and so placed that it may be easily extended if necessary The nerve supply and muscles of the abdomi nal wall should be spared as much as possible. A median abdominal incision conserves the nerves of the abdominal wall to the greatest extent and per mlts easy exploration of the abdomen. If its lower end is prolonged laterally or toward the tenth rib it gives a very adequate approach which will permit operative procedures on the spleen kidney colon, stomach and disphragm. When the damage appears definitely limited to the spleen and kidney a domolumbar incision provides adequate exposure with maximal conservation of the muscular struc-

If the spleen is lacerated and contused, its removal is the only justifiable procedure, but injury to the kidney should always be treated conservatively Renal lacerations may be sutured or a heminephrec tomy may be performed. As a rule it is necessary to drain the kidney pouch.

In combined injuries of the spleen and left kidney operation is always necessary. The mortality of expectant treatment approaches 100 per cent.

JOHN W EFFON M.D.

Bonaccoral, A.: Hydronephrosis and Lithiasis in a Pelvic Ectopic kidney With Pelvi Ureteral Mai formation (Idronefrosi e litiasi in rene ectopico pelvico, con malformazione pielo-ureterica) Policia, Rome 1933 xl, sex chir 245

The case reported was that of a girl thirteen years of age who five years previously began to complain of pain of a colicky character in the lower part of the abdomen on the left side and passed blood in the

stools Roentgen examination revealed a redundant sigmoid, a diffuse spasm in the descending colon, and a small oval shadow behind the aigmoid which was interpreted as a nucleus of ossification in the sacrum. A few months later another 🕆 ray exami nation led to a diagnosis of vesical calculus. At operation, the bladder was found completely normal.

When the patient was first seen by the author the attacks of pain were more severe than before, and deep palpation disclosed pain in the left iliac fossa. The kidney regions showed nothing abnormal. The urine contained only a few leucocytes. \ ray exami nation supplemented by cystoscopy chromocystoscopy and descending urography led to a diagnosts of pelvic ectopic kidney with a ureteral calculus and marked angulation of the ureter. The left kidney was removed through an iliac inguinal incision. Section of the kidney revealed a hydronephrosis which was probably secondary to disturbances of the circulation due to the anomalous blood supply of the kidney and obstruction from the kinking of the EUGIDAE T LEDDY M.D. ureter

Pfeiffer, A. Pyelonephritic Contracted Kidney (Ueber die pyelonephritische Schrumpfniere) Zischr f urol Chir, 1932 Exxvi, 53

The author states that the pyelonephritic con tracted kidney has received very little consideration in the past, even in the larger textbooks. He endeavors first to answer the question as to the rôle it plays in comparison with other types of contracted kidney and whether it occurs more or less frequently than the other types. Of 970 autopeles performed during the year 1030 he found arterloscle rotic contracted kidneys in 27 (2 78 per cent) and pyclonephritic contracted kidneys in 18 (1.85 per cent) His conclusions are based on these 18 cases specimens sent to him, and 5 cases reported by Staemmler and Dopheide.

Of the first 23 cases cited, 17 were those of women and 6 those of men. The ratio of women to men was therefore about 3 I Eleven of these cases were unilateral and 12 were bilateral. In 9 cases the pyclonephritic contracted kidney was the direct cause of death or was responsible for death indirectly as the result of apoplexy sepsis, or some other complication. In a cases it was a definite cause of illness, but was not the cause of death. In 8 cases it produced no symptoms

The author reviews the pathological anatomy and microscopic findings in cases of pyelonephritic con tracted kidney with the aid of case histories and photomicrographs.

A characteristic change in this condition is dilatation of the renal pelvis. However this is never sufficient to cause atrophy of the kidney tissue. Nearly every

pyclonephritic contracted kidney has a different external as well as internal appearance. With repard to the buddings of microscopic examination, Pfeifier says that while he recognizes the 4 stages described by Staemmier and Dopheide, considerable overlapping occurs.

The clinical findings are discussed in detail. The suthor state that as the picture presented is always that of a fir-advanced condition conclusions as to its came require great causion. He believes that pyelonephritic contracted kidner is probably due to an ascending process such as has been assumed with certainty to be responsible for contracted kidnes with state forms they are assumed.

Wolgensinger Maaked Renal Tuberculosis and False Renal Tuberculosis (Bacilloss rénals masquée et famses bacillose rénale) J d'arrel més et à 011 vuy 250.

Two unusual conditions are described in detail (i) renal tuberculosis masked by pyelonephritis and cythids which may be evidenced by an enterorenal syndrome, and (i) ordinary pyelonephritis which presents the symptoms and the cystoscopic findings

of renal tuberculosis. Two illustrative cases of the first condition are The disease begins as an ordinary pyclonephritis with pyuris and dynuris. cystoscopic indings are variable, but do not suggest a specific cause. Cultures are positive for colon bacilli. The condition is usually diagnosed first as pyclonephritis and treated accordingly Failure of this treatment leads to a revision of the diagnosis and a search for factors which might maintain the infec tion. The elimination of such possible causes as prostatic bypertrophy diverticula calculi, and tumor hnally leads to the suspicion of latent tuber culous. The separate examination of the functional capacity of the kidneys is of especial aid because tuberculosis causes a relatively greater depression of function considering the extent of the lesions, than

any other disease. Of the second condition described, four illustrative cases are reported. This condition is characterized by an enterorenal syndrome which begins insidiously and is associated with ulcers of the bladder closely resembling tuberculous picers. The causative organism is usually the enterococcus. The absence of definite intestinal symptoms, the remissions and execurbations, the change in the general health, and the intolerance of the bladder to aliver nitrate lead to a fruitless search for the tubercle bacillus. A general urological examination may reveal the source of the trouble. In one case, dilatation of the ureters and renal pelves was found. Often, how ever, the possibility of tuberculosis cannot be eliminated. When no treatment or improper treat ment is given the disease may persist for months or years. In two of the author's cases its dura tion was four years. Rather characteristic is its amenability to proper treatment, namely treat ment of the enterorenal syndrome. This varies in

different cases. The definite demonstration of the entercoccus in the urino is of great diagnostic aid because this organism alone is capable of producing lesions which simulate those of tuberculosis.

Cirio, G : Multiple Anglomata of the Bladder and Kidney (Anglomi mo tipil della vestica e dei rene). Referens med., 1913 zilz, 598.

A man twenty three years of are came for examination on account of repeated hematuria. General physical examination disclosed a cavernous anglorus the size of a bean on the external border of the right ear, and evatoscopic examination disclosed a similar anglome the size of a strawberry on the left wall of the bladder. Destruction of the tumors by electrocongulation was followed by uneventful recovery Three months later the nations reported that he again had copeous hematuria. As no cause could be found he was discharged with instructions to return if the bleeding recurred. A month later he returned with very severe harmaturia which necessitated a blood transfusion. Cystoscopic examination showed that the blood was coming from the right kidner Pyelography revealed a tumor extending from the kidney into the pelvis. On the basis of the history this was assumed to be an applorus. Examination of the kidney after its removal showed an angloma on the external surface of the organ near the right pole in addition to the angioms in the pelvis. The patient recovered and was still well six months after the operation.

Very few cases of angioma of the bladder or the kidneys have been reported, and the author knows of no other case of angiomata occurring in both the bladder and a kidney. He believes that so-called idiopathic hematuriz is sometimes due to an angioma.

for small angiomate of the bladder the best treatment is electroosayaltain, and for larger ones, surgical removal or existion or resection of the bladder. For angiomate of the kidneys, the best treat ment is nephrectomy as the organ may contain more tumors than is apparent. The disposits of angional of the kidney is extremely difficult unless the tumor communicates with the pelvis and causes harmaturia.

APPRET GOM MORGAN, M.D.

Jorns, G.: The Demonstration of Adrenal Lipses In Hypernephroid Tumors (Nachweis von Nebennisreallpass bei hypernephroiden Geschweisten) Arck, f bl. Chr. 1913 clxxli, 781

In disease of a given organ the presence of the fast-solitting ferment of that organ can be demonstrated in the serum by the stalagmometric method Differentiation of the numerous organic lipses is possible because of their sensitivity or resistance to different towin. A functional test for disease of the stalage of the demonstration of a specific adread lipses in the blood. The fat-splitting ferment of the adreads is very sensitive to stary!

and chloral hydrate but completely reastant to try chilne, quinine and cocaine. The demonstration in the scrum of a lipsac which is sensitive to chloral indicate the presence of an afternal lupsacforeign to the blood. The amount of scrum used for

a single test is 3 c. cm In a case of fibrocaseous tuberculous of both adrenals which was proved at autopsy and in which there was complete destruction of the cortex and medulis with signs of Addison s disease during life the author was able to demonstrate definitely the presence of a blood foreign chloral-sensitive lipase in the serum. Later he conceived the idea of extend ing the test to cases of renal tumors since the majority of renal tumors in adults have their origin in displaced adrenal cells. He carried out the test in sixteen cases of malignant renal tumors, two of which were cases of recurrence. In nine the histological diagnosis of the tumor was confirmed. In fifty five control cases of various diseases, including other renal conditions, no chloral-sensitive lipuse could be demonstrated in the serum. Tests for the presence of an adrenal lipase were made also on extracts from the operatively removed renal tumors. Of the nine cases cited, the histories of which are presented briefly, a chloral-sensitive fat-solitting ferment was found in five. The extracts from hypernephroid tumors also contained an adrenal lipase The four cases in which the lipase could not be demonstrated in the serum were cases of sarcoma, malignant hypernephroma carcinoma, and hypernephroma recurrence respectively extract from the hypernephroms showed the lipase. Of seven cases of hypernephroid tumors the lipese test was positive in five and negative in two but the tests of the extracts were positive in all. In addition to the chloral sensitive lipuse the extracts of tumors often contained a lipase which was resistant to atoxyl. Of the seven cases not operated upon in which a clinical diagnosis of malignant renal tumor was made but histological examination was im possible the adrenal lipuse was demonstrated in hve.

The test is of significance not only when it is positive but also when it is negative. In summariz ing, the author says that in the majority of cases in which the presence of a hypernephroid tumor is demonstrated histologically or is assumed with con siderable certainty the serum contains the specific adrenal lipose. This lipase is present also in the extracts of the operatively removed tumors but is absent from the serum in cases of renal sarcoma or tarcinoma. It seems justifiable to conclude that the adrenal ferment is present in the scrum only in cases of hypernephroid tumors and that it comes from the tumor itself. Accordingly a functional diagnosis of this type of tumor is possible. By such a test will it be possible to make an early diagnosis of tumors which become manifested clinically so late. How ever a positive demonstration is to be expected only in cases of the so-called Grawitz tumor

STREISSLER (Z)

BLADDER, URETHRA, AND PENIS

Pierson L. E and Nervig I E: The Formation of Bone in Cystotomy Scare J Urol 1933 xxx 83

The authors report a case of bone formation in a cystotomy scar and cate fifteen cases previously reported. In their own case two dense bean-sized masses were found in the scar two months after a cystotomy for bladder drainage. Microscopic examination revealed fibrous connective tissue containing spicules of developing bone. Osteoblasts were found gradually invading the connective tissue and depositing bone which in turn enveloped the cells to form characteristic canaliculi

The authors conclude that although many theories have been advanced with regard to the origin of this bone formation the process is not yet understood.

FRANK M Countain, M D

Nicolini R. C: Cancer of the Penis (Cancer del pene) Semano mbd 1933 xl, 1590

While cancer of the penis is not common, it is far from being a rarity. If the diagnosis is made early radical operation may sometimes be avoided.

The condition is most common in the fifth decade of life, but occasionally it occurs in young men and sometimes even in boys. The literature records a case in which it occurred in a boy two years old. The author's youngest patient was twenty two years of age

The local predisposing cause may be traumatic or infiammatory or the degeneration of a benign lesion. The condition may develop from warts from scars left by veneral sores and in association with an entral fistulæ or chronic balanitis. Phimosis is an important predisposing cause since the associated retention of sinegima and urine favors the development of balanitis vegetations and fissures of the foreskin. It is daimed that the circumcised Jew is exempt from cancer of the penis. The possibility of inoculation from the uterine cervix has been suggested but if this occurs it is evidently extremely rare.

In most cases the condition begins as a wart on the glans or the inner surface of the prepuce More rarely it appears first as an indolent ulcer, a subcutaneous nodule or pimple, or a patch of leukoplakis. Regardless of its origin, it gradually assumes a definitely cancerous appearance. As the ulcer ad vances it involves all tissues in its path. It has a thin fortid discharge and becomes deep and irregu lar Its edges become hard and everted At the same time the exuberant warty growth progresses. Predominance of the ulcer or warty growth deter mines whether clinically the lexion is warty or ulcera tive. The inguinal glands enlarge and become in volved by the pyogenic process as well as by the cancerous process so that they are matted together and may even suppurate and produce an epithe liomatous ulcer in the groin.

The lesions which may be confused with cancer of the penis are warts chancre tuberculous ulcers

and chronic ploers from balanonosthitis. growths or ulcers that prove intractable should be regarded with suspicion. Immediate bloney should be performed on such lesions, and when the microscopic examination confirms the sumicion proper

treatment should be instituted at once

The treatment indicated in the majority of the cases is radical amoutation with removal of all lymph nodes and followed by radium or deep \ ray therapy. The operative work should be done with the electrical captery knife instead of the scalnel. In all but very early cases the lymphatics should be very widely removed as requirences develop more freemently in the lymphatics than elsewhere In certain cases, depending on the extent of the neonlasm and its histological structure, radium irra diation may be employed more advantageously than surrecry. When the destruction is not far advanced, portions of the nepls may be preserved. In early cases, disthermic cosmistion has also been employed with successful results.

WILLIAM R. MILLER, M.D.

GENTTAL ORGANS

Abeahouse, B. S. : Inferct of the Prostate. J. Led., 1011 XXL 07 Abeshouse reports three cases of infarct of the prostate. At the time of operation all three were considered to be typical cases of benien adenoma of

the prostate.

In a careful review of the literature of the next thirty years Abeshouse was unable to find any references to infarction of the prostate. He states that the mechanism of production of the condition is not known. As causes he suggests infection pri mary in the bladder prostate, or prostatic urethraor secondary to instrumentation or preliminary catheter drainage circulatory disturbances in the peripeal or prostatic region secondary to a general vascular disease and the pressure of the catheter on the walls of the prostatic prethra.

The disgnosis may be easy when the infarct presents the characteristic sonal arrangements, but at times the differentiation of the condition from early carcinoma, abscess, and hymorthagic extrav seation may be difficult. Frank M. Cocremes, M D.

Hammond T E.: Cancer of the Prostate: Its Diagnosis and Treatment. Brill J. Urel

Hammond states that in Britain many surgeons with special experience in urinary surgery are of the opinion that in cancer of the prostate no other operation than cystostomy is advisable. This theory is based on the following considerations

I The patient must live

Life must be worth living.

3 The expectation of life must justify the in convenience that follows the operation.

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Hammond divides carrinomata of the prostate into (1) the acute followingting type (a) the disseminating type, and (a) the scirrhous type. He cites two cases which show how slow the smooth of the cancer may be. He believes that the term percancerous" has no meaning. He discusses the operative treatment and the general postonerative care of cases of cancer of the prostate

DOTALD K. HITERS, M.D.

Yound, H. H.: The Eltimate Results in the Treat ment of Carcinoms of the Prostate by Radical Ramoral of the Prostate Vesical Neck, and Reminal Vaniries. J. Urel., 1011 XXIX, 111

Young discusses some of the gross characteristics of carcinoma of the prostate, describes his technique for radical prostatectomy and gives tables showing in particular the results obtained from one to seventeen years after the operation in forty-two

Carcinoma of the prostate generally begins as a palnable podule just beneath the posterior caprule. whereas hypertrophy of the prostate almost never begins in this region. The two conditions may be associated. Later carcinoms spreads in all direc

Young reports a case in which he made a diagnosis of carcinoma of the prostate in 100 t and it appeared that a radical operation could be carried out without much difficulty From nethological studies he had learned that in such an operation it is necessary to cut the prostate off from the membranous urethra and remove it with its capsule, a portion of the vesical neck, most of the trigone, and all of the seminal vesicles and amoulle. In the case cited the anastomosis between the wide-open bladder and the stump of the membranous urethra was not difficult, and an excellent result was obtained. Similar good results were obtained also in other cases treated in the same way However after the operation the patients were incontinent when on their feet although not incontinent at night. As Young had preserved the external sphineter the incontinence was difficult to explain. In an anatomical study be observed that the pelvic fascia which reaches the prostate on either side splits to form the anterior layer of Denonvillier's fascia and the anterior prostatic fascia. He concluded that the vessels and nerves above the latter layer should be carefully guarded. Therefore, in his next case, he was careful to preserve the anterior prostatic fascia and to free the prostate from beneath it, thus avoiding injury of vessels and nerves.

The radical operation he now performs is begun with an inverted V incision and exposure of the prostate through the membranous urethra. tractor is then introduced, the posterior surface of the prostate exposed and the urethra divided transversely Next, the prostate is isolated from heneath the anterior transverse fasca: the bladder exposed near the prostate, and the cuff of hladder resected with transverse divasion of the trigone r cm.
below the urethral orifice. The bladder is then carefully pushed up and the ampulle and versicles are
isolated, clamped, divided, and ligated high up.
The deep pedule of the seminal venetice is ligated
and all serious bleeding stopped. The bladder is
then easily anastomosed to the membranous ure
thra, a portion of the anterior bladder will being
used and the remainder being closed longitudinally
A retention urethral cathete is introduced for drain
age and the angles of the wound are lightly packed
with koldorom gauze.

Young believes that a radical operation should be done in all operable cases in which the diagnosi is certain, and that when any doubt as to the presence of malignancy arises at operation a portion of the suspicious nodule should be excised for frozen-section examination before the prostatectomy is completed. Since the described change in his technique, most of his patients have had normal urinary control.

CLAUDE D HOLMES, M.D.

Roche, A. E. Growths of the Testicle. Proc. Roy Soc. Med., Lond. 1933 xxvl, 1063

The author reports three cases of tumor of the testide. From a review of the literature he concludes that incomplete descent of the testide definitely predisposes to testicular neoplasms. He states that while trauma may initiate the formation of a tumor of the testide this is difficult to prove. However trauma probably accelerates the growth of a tumor or leads to its discovery by palpation. Previous or associated inflammation is coincidental. In the treatment of testicular tumors orchidectomy plus irradiation is preferable to radical operation.

DOMALD K. HIBBS, M.D.

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WILLIAM R. MITTERER, M D.

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DOTALD K. HIRES, M.D.

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Carcinoma of the prostate generally begins as a palpable nodule just beneath the posterior expense, whereas hypertrophy of the prostate almost never begins in this region. The two conditions may be associated. Later carcinoma spreads in all direc tions.

I oung reports a case in which he made a diagnosis of carcinoma of the prostate in 1905 and it appeared that a radical operation could be carried out without much difficulty From pathological studies be had learned that in such an operation it is necessary to cut the prostate off from the membranous urethra and remove it with its capsule, a portion of the vestcal neck, most of the trigone, and all of the seminal vesicles and ampulle. In the case cited the anastomosts between the wide-open bladder and the stump of the membranous urethrs was not difficult, and an excellent result was obtained. Similar good results were obtained also in other cases treated in the same way However after the operation the patients were incontinent when on their feet although not incontinent at night. As Young had preserved the external sphincter the incontinence was difficult to explain. In an anatomical study be observed that the pelvic fascia which reaches the prostate on either side splits to form the anterior layer of Denonvillier a fascia and the anterior prostatic fascia. He concluded that the vessels and nerves above the latter layer should be carefully guarded. Therefore, in his next case, he was careful to preserve the anterior prostatic fascia and to free the prostate from beneath it, thus avoiding injury of vessels and nerves

The radical operation he now performs is begin with an inverted "V incision and exposure & the prostate through the membranous urethra. The tractor is then introduced, the posterior surface of the prostate exposed, and the urethra divided transversely Next, the prostate is isolated from betoses but the condition does not progress to an kylous or marked deformity

Fibrositis is defined as an inflammation of the

connective tissues of the body

In the discussion of the etiology of arthritis, the Committee calls attention to the usual foct of infection and states that there may be a general infection of the pharyngeal and masal mucous membranes in the absence of local infection in the tonsils and masal sinuses. It reserves judgment regarding the reports of Amencan observers who claim to have isolated streptococci in cultures of the blood of arthritics and recommends further work with regard to this problem. Attention is called to the fact that im balance of endocrine glands especially the thyroid, is frequent and of importance in arthritis.

The morbid anatomy in the main types of ar

thritis is discussed.

In the discussion of the blochemistry of arthritis the report states that the blood sedimentation test is of particular value in the differentiation of the unatold arthritis from the primary form of osteo-arthritis, which is usually monarticular. Rheimstoid arthritis is generally associated with a glucose intolerance which is probably due to a metabolic disturbance in the tissues rather than in the pancreas. Calcium, magnesium, and phosphorus studies and studies of the unne sweat, and gastric juice in arthritis have been of little sid.

The Committee believes that radiology may be expected to increase in value in the differential diagnosis of chronic arthritis, but discusses it chiefly

with regard to esteo-arthritis of the hip and spine.

The differential diagnosis of the various types of arthritis is discussed at length and summarized in

three tables.

The discussion of the treatment deals with prophy laris, veccures, drugs, endocrine preparations, diet, physical methods orthopedic and surgical measures, national schemes for treatment, and advertised

remedies.

Prophylans is very complicated, especially if arthritis is due in part to a victous cycle including chronic sepais metabolic disturbances and endo-

crine deficiency

Vaccine therapy is of value in some cause even though the barterilogy of the disease is question able. Either stock or autogenous vaccines may be used. The dosage is more independent at than the type. The injections should be sufficiently small to prevent a severe general reaction as difficiently large to cause a definitely favorable response in the local condition. The treatment should be begun with a small tentative dose of from 2000 to 5000 streptococil is acpite focus is suspected and with a dose of from 2000000 if on 2000000 to 2000000 in a specific focus is present. The injections may be given in increasing strength every five or six days and continued for the weeks if improvement follows. Protein shock therapy has been generally disappointing.

Drugs have no specific value, but pain relievers such as the salicylates phenacetin and amidopyrin are valuable. Cinchophen and other quinoline denvatives sometimes help but must be used with caution because of their tonc effects on the liver Saiol guaiscol carbonate and other intestinal an itseptics may be employed in chronic cases. Iodine compounds are widely used. Methyl salicylate and A.B.C. liniment may be applied locally for the relief of pelin. In lumbago, local injections of sterile glucose solution are beneficial, and in scattics, the injection of sterile normal saline solution into the nerve sheatth has been found of value.

Endocrine therapy is limited to disorders of the thyroid and ovares. The influence of any other glands is highly problematical. Villous arthritis and osteo-arthritis are often associated with hyperthyroidism whereas theomatoid arthritis is often associated with hyperthyroidism Monarticular osteo-arthritis is often found in women with uterine offerod or mensitual irregularities and its frequently relieved by diathermy treatments to the cervix and pelvic organs possibly as the result of an effect on the ovaries. The conclusion is drawn that endocrine disturbances may predispose to but do not cause, arthritis.

With regard to diet, there is little uniformity of opinion. Food idiosyncranes should be inquired into but the patient usually knows what foods do and what do not, agree with him Adequate supplies of Vitamins A, B and D are advisable, and constitution should be prevented or overcome by det.

The physical treatment indicated includes the application of heat massage, and exercises. Heat above 100 degrees F is stimulating and beneficial. Massage is valuable except when it is applied to inflamed joints, where it is harmful, and when it is applied to ankylosed joints where it is useless. An inflamed joint should be splinted in the best position. Active motion should precede passive motion. Activation of the local symptoms indicates further rest. Diathermy is especially valuable in osteo-arthritis of the hip and for pelvic treatments. Ultraviolet rays increase the general resistance, but have no other beneficial effect in arthritis. They may be beneficial in acute fibrositis, but may make sciatica worse. The value of the roentgen rays is questionable. Mineral waters and baths probably owe their value to the stimulation of general metabolic and excretory functions rather than to any specific ingredients in the water. The type of climate most beneficial varies in different cases. but as a rule a cold or cool temperature with protection from wind and dampness is best

The importance of orthopedic and surgical treat ment is gaining wider recognition. Spondylitis should be treated early by recumbency with dally cerecises for a month or more, and a spinal brace should be worn when the patient is allowed to get up In active hip disease the first indications are the relief of weight bearing, rest and fixation. Later use of the limb short of irritation of the joint will help maintain function but deformities must be guarded against by splints, exercises, and massage. Manipulation of a stiff knes joint under anesthesis abould never be attempted unless the patella is freely movable. Even then, there is danger of attembolism. It is well to allow six nonths to chapse between the subsidience of the infection and attempts at forcible joint manipulation. Forthle manipulation of stiff fingers should never be attempted as the results are invariably poor. The general pranciples outlined in this report for this treatment of the various joints and the optimum positions for ankyloids are essentially the same as those found in most orthopolic textbooks.

Holland, Germany and Sweden have more or less national schemes in operation for the treatment of arthritis. The Committee suggests a scheme for Great Britain. It is presented only in outline with out specific details as to how it might operate.

The Committee recognizes the need for legisla tion for effective control of the traffic in propeletary and advertised remedies for arthritia.

More attention to arthritis in medical schools and postgraduate special instruction for the general practitioner are recommended.

Among the subjects suggested for future research are the incidence of the disease in the country as a whole in various localities, and in relation to various trades and occupations the nature and strain of bacteria responsible either by direct action or by their toxins and methods for the detection of the responsible organisms or toxing. The Committee realizes that such research requires specially equipped hospitals and trained observers. In the field of blochemistry the significance of the sediments tion test awaits elucidation. Also pecessary are further investigations on calcium metabolism, Ilver function, allergy and the presence in the blood of bermolysins and dutathione. A classification satis factory to clinicians, radiologists, and pathologists is highly desirable, and controlled experiments should be carried out to determine the relative merits of the many therapeutic methods advised for the treatment of the various forms of arthritis. CHESTER C. GUT M.D.

Keefer C. S.: The Classification and Cartain Pathological Aspects of Chronic Arthritis. Ass England J Mod., 1933, CCVE, 1937

The author states that there is perhaps no branch of medicine in which there has been more contained in terminology than in the branch dealing with discases of the joints. However if the history of the terms is studied, it will be plain that the introduction of each term corresponded to some special concention.

The terms applied to arthritis will vary with the special interests of the physician discussing the accordation. The terms that are suitable for the pathologist may not be astisfactory to the clinician or the investigator interested in the cames of the discusse. The American Committee for the Control of Rheimstein has proposed a dessification based

on the predominating nathological changes in the idents which were defined some years are by Nichols and Richardson. The British Ministry of Health and the International League for the Control of Rheimatism have adopted similar classifications but as the terms they use are different the confusion continues. For example, the term 'stroobic arthritis" as adopted by the American Committee is used avnonymonaly with the terms "rheumatold arthritia primary progressive arthritis. 'nmilierative arthritis, and the term byper trophic arthritis" is used in place of decementing arthritis," "esteo-arthritis, and "arthritis de formana". In the use of any classification it is necessary to define precisely what is meant by the terms employed

From the standpoint of the clinician, the use of the classification adopted by the American Committee for the Control of Rheumatism has as its chief attraction almolicity. It access to be further agreed that the a main divisions of arthritis proposed include only cases in which a specific caper capact be proved. From the standpoint of anatomical diagnosis this classification is satisfactory but one must not overlook the fact that the diagnosis of atrophic or hypertrophic arthritis should pever be accepted as the sole diagnosis until all of the known causes of arthritis have been excluded. Nichols and Richardson repeatedly emphasized that the a pathological types described by them (proliferative and degenerative) were probably caused by a variety of agents, and that the classification proceed by them was an anatomical classification

It is not a simple matter to make a precise disnotia in every case of arthrith even when the cause can be detected with certainty. Allison and Ghornley reported that of 4x cases in which the disposits of tuberculosis of the joints was made, only 2/65 per cent) were proved to be due to tuberculosis, and of 4x cases in which tuberculosis was not considered, it was proved to be present in 5x per cent.

Because of these facts and the confusion of terms, Kerder stresses the importance of attempting to make an etiological as well as an anatomical day noist. He states that when he refers to the tiological factor he refers not to infectious agents alone, but also to other factors such as trumms, static said the state of the states of the state of the state of the state of the state of the state of the those smoothest of the state of the state of the course in hemochilis.

It seems to Keefer that the study of arthrifts his been hampered by a lack of eract knowledge regarding the austomical variations occurring in the joint structures with advancing age. Such moveledge of importance with regard to the ultimate charge that may occur as the result of damage from the invasion of a foreign substance, the early effects of injury to joints, and the prevention of certain conditions.

In an attempt to determine the changes that may be anticipated at various age periods, the author and his colleagues made a systematic study of 100 kmes joints of patients coming to autopsy. Whenever possible, the entire kines joint was removed together with the lower end of the femus and the upper end of the fibia. When this was not possible, the entire articular surface was removed by means of a saw. The gross appearance of the specimen was recorded and any areas appearing abnormal were studied intologically.

Sixty-seven of the joints were obtained from males and 33 from females. As the changes were precisely the same both qualitatively and quantitatively, the

s groups are considered together

It was found that alterations in the knee joint increase with advancing age. The areas most fre quently involved are those in contact and therefore those subjected to the greatest weight, movement, and strain. The anatomical changes are identical with those commonly recognized as occurring in degenerative or hypertrophic arthritis. In some cases they were seen in an early stage and in others in an advanced stage of degeneration. There is justification for the belief that degenerative or hypertrophic arthritis is a process associated with aging of the joint tissues. A full explanation of the various factors responsible for this process is still awaited. However the conception that same of joint tissue contributes to the changes is essential for a complete understanding and evaluation of the clinical condition known as degenerative arthritis. As all of the lemons in a joint involved by degenerative (hypertrophic) arthritis may be exaggerated or increased by trauma, harmorrhage infection, the deposit of urates, the formation of loose bodies, or static deformities, the final result will depend on the summation of a number of factors.

H. EARLE COMMELL M.D.

Phemister D B., and Hatcher C. H. Correlation of Pathological and Roentgenological Findings in the Diagnosis of Tuberculous Arthritis. Am J. Reentgenol. 1933 xxiv, 736

Tuberculous arthritis may be primary in either the bone or the synovia, but there are no very reliable statistics as to the relative frequency of each. In either case a diffuse tuberculous synovitis eventually develops and the granulations attempt to spread over the surfaces of the articular cartilage and destroy it. In some joints the articular cartilages fit accurately together while in others, particularly the knee they are of a different contour so that there are large areas of both free surfaces and surfaces in contact. In joints with articular cartilages extensively in con tact the granulations are kept off the surfaces of the cartilage, but they destroy the cartilage to some extent by erosion at the margins. In joints with surfaces of cartilage both free and in contact the free carrillage is gradually overgrown and eroded by the granulations.

As the disease progresses in any type of joint the articular carillage suffers from nutritional disturbances and the action of toxins, and subchondral granulations, usually of a non-specific type and free

from tubercles, are formed. The granulations gradually absorb the bony articular cortex and deeper portions of cartilage and may eventually detach the cartilage completely Because of the absence of proteolytic ferments in tuberculous exudate, the loosened cartilage may persist for a long time. At this stage the roentgenogram of a joint with articular cartilages extensively in contact shows regional bone atrophy, reduction or loss of density of the shadow of the bony articular cortex and preservation of the normal width of the cartilage space of the joint. In joints with extensive areas of cartilage not in contact, such as the knee, the over growing surface granulations may destroy the entire thickness of cartilage and the underlying bony cortex in a part or all of such areas before there is extensive development of subchondral granulations. The roentgenograms of such joints show regional bone atrophy diminution or disappearance of the shadow of the bony articular cortex in the regions not in contact, and preservation of the abadow of the bony articular cortex and of the cartilage space in the regions of the condyles and the tuberosities in contact. Eventually the entire articular cartilage may be destroyed. When this occurs, the roent genogram shows narrowing or complete disappear ance of the cartilage space of the joint,

In the advanced stages there may be secondary invasion of the bone at the traumatized points of contact and weight bearing with resulting large areas of necrosis. The invasion is usually bilateral at opposite points in the bones. After a long time such areas may become detached with the formation of klasing sequestra. The roentgen characteristics of areas of secondarily invaded and necrotic bone are a more or less conical or hemispherical shadow of bone bordering on the weight bearing portion of the joint with an incomplete line of demarcation about it and usually casting a denser shadow than the surround ing living bone. As a rule the shadow of the bony articular cortex of normal or reduced density is pre served on it and the condition is bilateral, giving the picture of kissing sequestra. In some instances there is complete destruction of the dead bone leaving pits or grooves along the joint surfaces.

A small primary focus in the bone bordering on the joint may break down, leaving a pit or cavity but a large focus becomes separated as a sequestrum and retains its original density

Tuberculous arthritis in young children varies somewhat in its pathological characteristics from tuberculous arthritis in adults. In the larger joints with relatively thick articular extrilages, particularly the knee, destruction by surface granulations of the portions and in contact is less complete than in adults. Subchoudral granulations frequently do not detach articular cartilage. In the amsiler joints with thinner cartilages and in older children the course of the condition is more nearly like that in adults. Partitioning of the knee joint by healing processes occurs oftener, and different degrees of involvement within the partitions are more pro-

nounced in children. Primary bone lesions that can be identified definitely by roentgen-ray examination or at operation are more frequently located in the metaphysis than in the epiphysis. Secondary bone invasion is usually bilateral in the joint and most marked at the points of weight bearing as in adults, but usually results in destruction rather than exquetration of the necroic bone, regardless of the extent of the lumber area.

Nine cases representing different types of involve ment are reported at some length with especial regard to the rountgen ray findings and the pathological changes determined after operation. The case reports are supplemented by rountgenograms and photographs. Access Haymen M.D.

McMaster P E.: Tendon and Muscle Ruptures. Clinical and Experimental Studies on the Causes and Location of Subcutaneous Ruptures. J Ben & Jeint Str. 1011, Nr. 705

Spontaneous rupture of a tendon may follow direct or indirect trauma. It comments for quent's after indirect trauma to comment most for quent's after indirect trauma to come in control of the comments of the comments of the strong passive force in the opposite direction. Even under such conditions the tendon will rupture only if it has been weakered by previous injury disease, or obstruction of its blood surely.

Baseball finger' as usually a separation of the extensor tendon from its insertion, often with the detachment of a small fragment of bone. The treat ment of this condition is hyperestension unless the patient is not seen until more than four weeks have elapsed since the lingury. Under the latter circum stances open operation is preferable to longer conservative treatment.

Direct violence over the first interphalangeal joint may cause a 'hottonhole' rupture of the central dorsal alip of the extensor of the finger with displacement of the lateral slips. Open operation is

necessary for a good result.

Rupture of the supraspinatus and Achilles ten
does and of the long head of the bleeps brachil
occurs only when there has been previous weakening
by disease.

Partial or complete muscle rupture is frequent. It occurs in either normal or diseased muscles as the result of direct or indirect violence. In many cases in which a diagnosis of sprain, myositis, or neuralgia is made the condition is probably a small muscle rupture. The author reports experiments which were carried out on the gastrocnemius muscle of rabbits. The muscle was left attached to the femur and on calcis and increasing weights were applied to the stretched muscle and tendon, both gradually and suddenly This was done also after recent injury of the tendon and several weeks after the healing of an artificial tendon injury It was found that when the tendon was normal it did not rupture, but its inser tion to bone or muscle gave way. When the tendon or muscle was pulled from its origin or insertion a small fragment of bone was detached. Following severance of about three-fourths of the tenden, repture did not occur with ordinary activity. Under severe strain, rupture occurred immediately only when about one-half of the tendon was cut and fittled to occur if the test was delayed for four or first weeks, until after the injury had beated. Healing is retarded by interference with the blood supply carried in the embolt the easential blood supply is carried in the tendon substance rather than mainly in the about he tendon retards healing and favors and the tendon retards healing and favors the constitution of the blood supply by light them of the tendon retards healing and favors the supply of the s

CRESTRE C. GOT M.D.

Daniel, R. A., Jr., Upchurch, S. E., and Halock, A.: The Absorption from Traumatized Muscles. Sur. Grass. & Obs. 1933, Ivl. 1917

As according to the theory attributing slock to torsenia, the absorption of tode products from the injured area is responsible for the diefination of the blood volume and blood pressure in that condition, the suthors carried out studies on dogs to determine the relative absorptive powers of transmitted and normal tissues. Phenoleulphonephthalida astrophine were injected. The studies with exhibition to the supplies of the product of the supplies of the supplies of the supplies of the supplies of the studies of the supplies In the experiments with phenoloulphonephthalein made on normal dogs most of the dye had been absorbed and excreted at the end of four hours follow ing the injection. The average amount recovered in the urine was Q4.5 per cent. When the dys was isjected into the abdominal wall of does with one extremity transmatized, the amount in the urine varied from 80 to 97 per cent and averaged 875 per cent. The elimination of the dye was slower than in the cases of normal dogs, and a greater amount was recovered in the second hour than in the first. In the experiments in which the dye was injected into the center of the traumatized area the average amount recovered from the urine was 53.8 per cent and the rate of elimination was considerably slower From these findings it is evident that the absorption of the dye from injured muscle is mark edly diminished as compared with the absorption from normal muscle.

In the experiments on five normal dops in which strychnine (to mam, per likegram of body wight) was injected into the abdominal wall severe coard stons began from seven to twenty-one minotes that the injection and three of the animals died. When the injection was made into the abdominal wall of five dops with injury of one extremity convulsion began from six to twenty minotes sifer the injection and in four of the dops were quite severe. All of the dops died In the experiments in which the injection was made into the traumatized muscle, convulsions began from one hour and ten minutes to three hours later. In none of the animals were the convulsions severe. The dogs with convulsions died from two boars and five minutes to sixteen hours after the inpaction. Death was almost certainly due to the traums and not to the strychnine. These findings show that the absorption of strychnine from the anterior abdominal wall is altered very little by traums to an extremity and that strychnine is absorbed very alowly when it is introduced into a traumatized area. ROMODER'S REGIS, M.D.

Keyes, E. L. Observations on Rupture of the Supraspinatus Tendon Ass Surg 1933 xcvii 840

Rupture of the supraspunatus tendon is related to subdeltoid or subacromial bursitis. It is a common lesion and often occurs after the fiftieth year of age.

To determine its incidence, Keyes examined the supraspinatus tendons of seventy five cadavers. He found a rupture in 14 (1918 per cent) of 73 cadavers, 19 (1938 per cent) of 142 shoulders examined 5 (1724 per cent) of 20 white cadavers 9 (2045 per cent) of 44 negro cadavers 11 (18.97 per cent) of 58 male cadavers and 3 (20 per cent) of 15 femile cadavers.

or 15 tempte cadaven

The average age of the total number of cadavers was fifty-four and three-tenths years whereas the average age of those with a ruptured tendon was sixty-five and a half years. The youngest cadaver with a torn tendon was fifty-one years old, and the manner of the second

Both tendons were torn in 5 cadavers and only 1 was torn in 9 Of the unliateral team 5 were on the

left side

In a typical lealon the ruptured tendon may be found to split o γ cm, lateral to the accomion and to receed on either side of the tear to its insertion on recent on either side of the tear to its insertion on the greater tubercle of the humerus. The underlying joint capsule is perceed so that the joint cavity is exposed. The rupture is usually triangular and is never complete. The torn edges of the tendon are smooth, but there is some fraying of other portions of the tendon and of the long head of the bicepa. The greater tubercle is knobby and rough in its exposed portions.

Aktison reported the incidence of rupture of the supraphating tenden as 48 per cent on the basis of the number of endavers examined and 39 per cent on the basis of the number of shoulders examined. The corresponding figures given by Codman were 5 and 5 per cent. Aktrson's high percentages are sacribted to the fact that the studies were made on the fact that the studies were made on

the cadavers of aged persons with chronic disease. Keye ableivers that the lesion is due to a traumatic, infectious, degenerative, or metabolic process which progresses with years gradually causing degeneration of the floor of the subsectomial borns and wearing through the tendon at its insertion into the greater telbercile. Russians of Serger M.D. Russians S. Regul M.D.

Foncault: Condensing Osteltis of the Semilunar Bone (Lunarite condensante—ostélie condensante du semilunaire) Bull et mêm Soc nat de chir 1933 lix 360.

While climbing a ladder carrying a weight on his right shoulder a boy fifteen years of age allpped and the weight dropped, forcing his right hand into a position of forced hyperextension. He felt intense pain in the wrist but continued to work for a few days. At the end of three weeks the wrist was swol len and could not be used Physical examination showed flattening of the thenar eminence and slight atrophy of the muscles of the foresrm. There was limitation of flexion to 20 degrees of extension to 5 degrees, and of adduction and abduction to 5 degrees. Roentgen examination disclosed flattening and in creased density of the semilunar bone. The bone was decreased to half its normal height and clongated from behind forward. Following resection of the semi lunar bone by the dorsal route, functional recovery was rapid. At the end of two months there was an increase in flexion to 80 degrees of extension to 45 degrees and of abduction and adduction to 30 degrees, and pronation and supmetion were nor mal. The muscle atrophy was improving and the patient was able to go back to work without any

incapacity
This is a case of Kienboeck's traumatic malacia
a condition characterized by a history of trauma
followed by an interval of freedom from symptoms

before the development of drability

Mutel and Gerard have classified malacta of the wrist into three types. In the first type fracture is primary In the second type, the malacia is primary and pathological fractures take place in the diseased bone. In the third type the malacia seems to be due to a latent osteomychtis and the picture is that of chumated bone.

The prognosis varies. In some cases recovery results under treatment by immobilization and the use of hot air and disthermy. In others, operation is required. Rostock reported twenty-one cases in which he extripated the semilurar bone and thirty seven in which he employed conservative treatment. In the surjectly treated cases the disability was only 7 per cent whereas in the conservatively treated cases it was 20 per cent. Operation does not restore function completely or immediately but relieves the pain at once.

In the discussion of this report GUILDELLO described a similar case in which he operated. Histological examination aboved only an ordinary infismmation. The patient left the hospital free from pain, but with a very stiff wrist joint.

AUDREY GOES MORGAN M.D.

Craig, W McK. and Ghormley R. K.: The Significance and Treatment of Sciatic Pain Ambulatory and Institutional Methods J Am II Arr 1933 c, 1143

Sciatica or sciatic pain may be a symptom of con stitutional or systemic disease a tumor or inflamma tion of the spinsl cord or sciatic nerve, derangement or an inflammatory reaction about the lumbar yer tebre intervertebral foramina or enem-flies joint or nostural strain

In the treatment the contributory factors must be considered and eliminated if possible

There is a large group of cases in which the sciatic min is of uncertain nathogenesis, and efforts have been made to distinguish between sciatic neuritis and adatic neuralsia. This may be possible dinically but the authors were mable to find specific treat

ment accurately applicable to the two conditions. The authors divide the methods of treatment of sciatica into the ambulatory and the institutional Although the metitutional form of treatment is the more efficacions, a certain percentage of the patients can be treated successfully by ambulatory methods Institutional treatment can be used alone or to

supplement ambulatory treatment. The ambulatory forms of treatment and their

results at the Mayo Clinic were as follows Enidural in section was done in early cases. In ca per cent relief was complete in 24 per cent it was moderate, and in as per cent there was no relief. Diathermy employed in thirty-six cases, was fol lowed by complete relief in 13 per cent, moderate relief in 12 per cent, and no relief in 55 per cent. Endural injection and disthermy were combined in twenty-one cases. In 42 per cent there was complete relief in 10 per cent, moderate relief, and in 48 per cent, no relief. A sacro illac belt and duathermy were employed in fifty-two cases Relief was complete in 12.6 per cent and moderate in 13 per cent. In 14.4 per cent there was no relief Epidural injection. a belt, and disthermy were employed in eight cases. Eighty-five per cent of the patients were completely relieved, a per cent were moderately relieved, and 13 per cent were not relieved.

Of twenty-eight patients who were confined to bed and treated by double Buck's extension. diathermy enidural injection, intravenous injections of a foreign protein, and the removal of foci of infection, 83 7 per cent were completely relieved and 143 per cent were moderately relieved. Of fourteen patients given similar treatment without epidural injection, 63 per cent were completely re lieved, 23 per cent were moderately relieved, and

14 per cent received no relief.

Bray E. A.: Subchondral Granulation Tissue in Tuberculosis of the Knee Joint. J Bene & Joint Surg 1933 XV 631

At the Mayo Clinic a study was made of 102 tu berculous knee joints obtained by resection or am putation. In or microscopic sections were made through various portions of the articular surface. The tissue having been decalcified with nitric acid and embedded in celloidin, sections were cut and stained with methylene blue and cosin.

Subchondral granulation tissue evidently takes an active part in the progress of tuberculosis of the knee foint. Whether or not it can be shown to contain definite tubercles, it is responsible for many of the nathological changes in cartilage and home. Man ginal erosion of the bone in cases which ennear grossly to have only involvement of the synorial membrane is one of its most important some paniments. Destruction of cortical bone with Bittle If any diminution of the joint space is the result of the invasion of subchondral granulation tiene

Destruction of cartilage at the center of the wint is due largely to the presence of subchondral granulations. In tuberculosis of the knee locat. cartilage is destroyed by (1) the marginal pannus. (2) tuberculous toxins, (3) the pressure of oncored articular surfaces, and (4) subchondral granulation

Hente.

When subchondral granulation there is present beneath the center of the joint the picture is some what altered. The central cartillage is attacked from below its nutrition is impaired, and it becomes less resistant to the effect of opposing pressure. Tuber culous injection incites a response of granulation tissue beneath the cartilage and this is one of the most important factors determining the site of Why to some greatest cartilaginous destruction. cases there should be more central advance of this tissue with resultant destruction in pressure areas is not known. Weight bearing seems to be only of minor importance. Of the author's specimens with greater central destruction about half were derived from nationts with a history of having walked on the leg most of the time prior to the operation. The histories of the others indicated that at one time there had been treatment intended to place the inint at rest

The duration of the disease likewise appears to bear little relationship to the growth of subchondral

granulation timue.

The question has been raised as to whether trac tion is indicated in the non-operative treatment of tuberculosis of the knee foint. It has been shown that the superficial erosion of cartilage at the center of the joint by the formation of pannus is prevented or at least delayed until the late stage of the disease by the pressure of the opposed surfaces. On the basis of this observation alone traction would appear to be contra-indicated. However if there is a central growth of subchondral granulation these in the foints and traction has not been applied, erozion of the central cartilage from the effect of the opposing pressure will result in most cases. Obviously no definite rule can be established for the treatment of all cases

The severity of the tuberculous infection and the amount of individual resistance may be factors determining the amount of subchondral granulation these formed and consequently the site of greatest cartilaginous destruction. In the cases reviewed there was no clinical evidence that such factors were causes of the changes mentioned.

Subchondral granulation these seems to be of importance in the formation of bony sequentra at the articular surfaces. In 41 y per cent of the case reviewed subchondral granulation tissue arising from the margins of the joints was found between the cartilage and bone. Of the specimens in which subchondral granulations were present, there was definite evidence of tuberculosis beneath the margin and center of the cartalage in 20 per cent. In several others tuberculosis was strongly suggested but a

definite diagnosis could not be made.

Subchondral granulation is probably a tissue reaction to an infectious process rather than to foreign material in the form of degenerated cartilage Whether or not it presents the cellular characteristics of tuberculosis, it must be considered potentially tuberculous. In tuberculosis of the knee joint subchondral granulation tissue plays an active part in the emelon of bone, the demarcation of sequestra, and the destruction of cartilage.

Dieterich P Cystic Meniscitis (La méniscite kys-Arch franco-beless de chir 1921-22 EPRIN.

Dieterich states that a condition described as 'meniscitis' has often been reported in the litera ture, but many of the cases were examples of a mild form of the condition, which he calls meniscism, and did not require operation. As most of them were treated by physical therapy, there was no his-tological evidence of true inflammation. True cystic meniscitls is rare. Dieterich has found the reports of only sixty-eight surgically treated cases. He bim self has treated eleven cases surgically and five cases conservatively Seven of his patients were women and nine were men. The youngest was fifteen years

In the cases of old persons, cystic meniscitis is probably often diagnosed as rheumatism. The chief cause in women is a defective static condition and the chief cause in men is external trauma. In all of the author's cases the external meniscus was in volved. The cysts therefore occur in tissue that is not very dense and is well vascularized. Without doubt there is a vascular factor in its causation. It generally begins at the vessel hilus at the attach ment of the anterior or posterior born to the tibia. There is a degeneration or myxold change of the

connective timue.

of age and the oldest sixty two

The chief symptom is pain which causes lumping In all cases of painful knee an examination for cystic meniscitis should be made by inspection and palpation. If a cyst is present it can be palpated above the head of the fibula. The cysts vary in size from that of the tip of the little finger to that of a pigeon a egg. The larger ones can be seen. When the knee is flexed the cyst glides into the joint if it is not too large and can no longer be felt. Generally there are no roentgen signs, but in each of the author's cases there was a small exostoris on the external border of the plateau of the tible.

It is evident that in such cases physical therapy will do harm instead of good. The only treatment is resection of the meniscus. In the operation recommended by Dieterich a skin incision is made

beside the patella, running obliquely from above downward and from behind forward. A crucial incision is made in the tendons, but the capsule is incised horizontally as for the internal meniscus a little above the meniscus. A Boeckel splint is then put on for ten days. The patient is allowed up on the twelfth day and mobilisation is begun on the twentieth day Attorney Goss Morgair M.D.

Mitchiner P. II. Ellis, V. H. Butler R. W. Sle-singer E. G. and Others: A Discussion on Acute Suppurative Arthritis of the Knee Joint. Proc Roy Sec Med Lond 1033 Exvi 1270

MITCHINER reported seventeen cases of suppure tive arthritis of the knee none of which was due to a penetrating wound of the joint. In six, the con dition was caused by the extension of infection from a nearby staphylococcic osteomyelitis. As treat ment, Mitchiner recommended drainage by a long incision made laterally in front of the biceps tendon, followed by extension for three months, and then by weight bearing in a plaster cast for three months. He does not encourage early motion unless the pa tient is willing. He stated that 60 per cent function is a fortunate outcome. Pyæmia of joints occurs in from 6 to 10 per cent of cases of scarlet fever Early incision is advisable if the condition of the joint does not improve after one or two aspirations. Of the seventeen cases reviewed, amputation was done in three and death occurred in two

ELLIS called attention to the great bactericidal powers of the serous membranes and the fact that while surgeons have learned to trust this power in the abdominal cavity they are still doubtful of it in cavities lined with synovial membrane synovial fluid nourishes the articular cartilage. Therefore if it is lost by frequent washing-out of the iont the articular cartilage will tend to be destroyed and ankylosis will result. If penetrating wounds of the knee are immediately excised and closed suppurative arthritis will not develop unless there is gross soiling of the joint. Drainage is established best by two long incisions on either side of the patella with counter-extension downward if neces-SELTV

BUTLER reported that of twenty perforating wounds of the knee only three were followed by suppuration of the joint. In about so per cent of cases of gonorrhoal arthritis suppuration results from superimposed pyogenic infection. Synovial fluid is bactericidal when fresh and an excellent culture medium when old. Therefore early and repeated aspiration is advisable and a free incision should be made if frank put is present. Ankylosis resulted in about a third of Butler's cases. In another third, good motion was obtained. In the rest the results ranged from fair to poor

GREPLESTONE also advised repeated aspiration without washing out of the joint, followed by

SLESINGER stated that it is important to get the patient to move the joint freely. He has found that this can be done if there is sufficient extension of the les to senerate the joint surfaces completely

Crange states that balf of his nationts had had a recent mild local injury and a fourth of them had a focus of infection. In the early stages some painless motion of the knee is possible and may delay the disposis unless puncture and examination of the joint fluid are done. Whether repeated assiration or incision is advisable depends on the local and general progress of the condition under the former treatment. When enterior desires alone is not successful, posterior drainage of the popiliteal space is sometimes necessary. In Clarke's cases fixed traction on a Thomas milit with dressums every two or three days and encouragement of active motion as the joint improves is continued for about two weeks. Then, a non-padded plaster cast is applied for three or four weeks and the patient is allowed to walk freely during this time. Six out of seven nationts treated in this way recovered full motion. Immediate active mobilization is probably not sound in reinciple. Moreover it is difficult to carry out and its results are less satisfactory than those of temporary immobilization. Clarke reported twenty cases. Full motion resulted in tenpartial motion in four ankylogis in four and death

n two. FATERANK stated that if the joint is markedly redematous it should be opened thoroughly. He drains by two anterior and two posterior incidens. CHESTRE C. GUY M D.

SURGERY OF THE BONES, IOINTS MUSCLES, TENDONS, ETC.

Wilson P D., and Oegood R. B.: Reconstructive Surfery in Chronic Arthritis. \ex England J. Her 101; cdx, 117

In the early stages of chronic arthritis the treat ment should be medical and orthogedic. If such treatment were given in all cases, the number of arthritic cripples would be decreased.

At the present time there are many arthritics who are completely incapacitated by arthritic joint de formities which could be improved by reconstructive surgery However, surgery should not be considered unless the disease is opiescent, the patient is in good physical condition and is able to co-operate and afford prolonged treatment, the end-result sought will be worth the effort, proper nursing care can be given, an ademuste follow-up will be possible, and physical therapy equipment is available. Multiple operations in stages and a well-planned campaign of reconstruction are often required.

In the atrophic type of arthritis the problems are more difficult than in the hypertrophic type and surgery should not be undertaken until at least six months after all activity in the joint has ceased. In the hypertrophic type, activity is usually checked by rest so that the operation may be done at almost any time at which it offers hope of improvement. Gentle manipulation may be tried first. If success-

ful. it may render operation unnecessary. In costs of chronic arthritis of the knee with persistent chronic hydrona which resists all other forms of treatment avnovectomy is indicated. In other foints and in other twose of the disease the results of suppressions are usually disappointing.

In long-standing cases of flexion contractures of the knee the authors have been performing what they call "norterior canculorizaty" This condets to cutting the capsule posterioriy and senerating the muscular and tendinous attachments to the posterlor surface of the lower end of the femor. The les is then placed in a cast in extension or if full extension is not immediately possible, bone traction through Kirschner wires in the tible and os calcle is employed until the leg is straight. Mobiliration is been after two weeks and walking in callner braces is allowed after four weeks. This operation has been satisfactory in over fifty cases, but should be limited to cases in which the menternorms shows to severe damage to the articular surfaces. When the articular surfaces have been severely injured, estentomy is a better procedure. Ostentomy may be done for severe flexion contractures of the knee bip, or wrist In the form of hypertrophic arthritis known as 'morbus core scoills, remodeling operations on the hip are often indicated.

In atrophic arthritis, arthrodesis is indicated only for the midterest and subsetteester joints. It is not necessary for the spine as the mine can be supported by braces until it becomes ankylosed by the disease. In hypertrophic arthritis of the hip arthrodesis is occasionally advisable, but ankylosis

is difficult to produce Arthroplasty vields its best results in the law elbow knee, and hip. According to the older teaching it should not be done in atrophic arthritis, but in recent years the authors have been performing it with increasing frequency in this condition with our prisingly good results. It finds its widest range of usefulness in ankylosis of the elbow It gives good results also in ankyloris of the knee, but in this condition longer after treatment is necessary In ankyloris of the hip its results are less satisfactory The authors therefore recommend it only when the ankviosis is bilateral CHESTER C. GOY M.D.

FRACTURES AND DISLOCATIONS

Inberg. K. R.: Investigations Regarding the Effect of Immobilization for Different Periods of Time on the Rapidity of Consolidation of Fractures of Bones and the Restoration of Joint Function (\ emoche meber den l'infant verschiedenen langer Immobilisationsseiten auf de Konsobdationegrack indirkeit von Knochenbrucken unter Bernecksichtleung der Wiederberstellung der Gelenkfunktion) Acts chirurg Scame 1933. IE. 161.

The purpose of this article is to discuss the question as to which of the two therapoutic methods mobilization and immobilization has the better effect on the union of fractures. To solve this problem the author carried out fourteen experiments on dogs in which he kept ulnur fractures immobilized for various periods of time or left them entirely free and determined the time required for the occurrence of consolidation by roenigen ray exsimitation.

It was found that when the immobilization was not continued sufficiently long at least twice as much time was required for consolidation as when immobilization was continued for an adequate period. After the elapse of half of the consolidation time revealed by roentgen-ray examination, discontinuance of immobilization had no further unisvorable effect. Determinations of the mobility of the points aboved that, because of the resulting retardation of consolidation too brief immobilization is more unfavorable than more prolonged im mobilization which results in stiffness of relatively best duration.

The author concludes that in the treatment of inctures of the long bones immobilization is of great importance, and that until the optimum time of immobilization is known more exactly a fracture should be kept immobilized for hall the consolidation time shown by roentgen ray examination.

North-Josserand and Pouzet: A New Method of Restoring the Roof of the Acetaburum in Dis location of the Hip (Nouvean procede de restauration do tolt du coryle dans la luxation de la hanche) En d'orthép. 1933. 1, 240

Numerous operations have been devused to restore the upper border of the acetabulum in congenital dislocation of the hp. The essential feature of all of them is the creation of a bony projection to prerent upward and backward displacement of the head of the femur. The authors operation is based on a somewhat different numerile.

When the femur has been replaced the elongated capsule becomes plicated and thuckened and, in the course of three or four months, sufficiently solid to gre a certain amount of fixation to the femur labore important are the changes in the fibrocarillage which is responsible for much of the depth of the actualnum. In dislocation, the carrillage is displaced upward on the illum and m flattened. Following reduction the carrillage assumes its triangular form, and after seven or eight months.

will permit weight bearing. Ultimately there is a development of the bony acetabulum. This requires several years and is often incomplete.

To ald these processes by surgical means the authors reduce the femur and mobilize the cartflage sufficiently to displace it downward into its normal position where they fix it by means of osteoperiosteal grafts introduced between the cartflage and the bone in addition to holding the cartflage in place the grafts form an accessory center of ossification.

The joint is approached by a Smith-Petersen incision and the cartilage is mobilized with a sharp perioateal elevator During the operation the thigh is held in abduction and subsequently it is main tained in this position by a cast. In the cases of children seven or eight years old the cast may be removed at the end of a month and walking may be permitted two weeks later. In the cases of younger children the immobilization should be continued for two months.

Twelve cases in which operation was performed from twenty months to four and a half years pre viously are reported with roentgenograms. Three of the patients were eleven, twelve and thirteen years of age and nine were under ten years old.

In the cases of the three patients eleven twelve and thirteen years of age an attempt was made to restore the articulation anatomically. On removal of the cast the limb was found to be blocked in abduction. In two cases subtrochanteric esteotomy was necessary and in one the limb was foreblu straightened at the price of a crushed epiphysis. The final results were good.

Because of the muscular shortening which occurs in cases of long-standing dislocation, the authors believe that the operation described is not suitable for patients over ten years of age. In their cases of children under ten years of age the purpose of operation was merely to stabilize the head of the femur in the new acetabulum. The functional results were entirely satisfactory

The authors consider the operation described best suited to potients between six and ten years old. Before the age of six years sufficient space cannot be obtained to lodge the grafts and after the age of ten years there is danger of producing a still joint. For patients older than ten years the Lance operation is preferable.

clinic universal dozors are frequently employed without complications. According to Instreler's serological investigations it is certain that the serum of a donor belonging to Group O has the ability to agglutinate red blood cells, but dilution and temperature are very important factors in this process. Dilutions of from t 5 to 1 to (with serum. not with Ringer's solution or sait solution as the latter contain chemical agents which neutralize the group-specific properties of Erythrocytes A and oractically always those of Erythrocytes B) do not cause againstruction at temperatures of from to to an degrees. Accordingly the blood of universal donors is harmless with normal dilution and at body temperature, but dangers arise when dilution cannot take place, as, for example, in exsanguinated recipients, and when the blood is considerably the blood off considerably even to as low as to degrees. The author therefore recommends the Buerkle de la Camp apparatus which produces no noteworthy cooling of the blood, and has been used with enod results in hundreds of cases. PRANZ (7)

Rajgorodskij I : Serious Complications After Blood Transfusion and Their Causes (Schwers Komplikationes nach Bhattransfusionen und fare Ursuchen) Ver cht. Arch. 2022. XXVII. 22

The author attempted to determine the degree complete of all cases of book or manufactures. The questions of all cases of book or manufactures complete on all cases of book or manufactures which is their complete on a simpositive. In large series of atteintion shifting with blood transfusion, little at tention is paid to the complications, and in the description of accidents, the total material is not reviewed. However accurate analysis of the major complications yields certain visibale conclusions. In the literature the author was able to find a which were fatal. The author divides such complications according to their development into the following groups

1. The use of the donor without preliminary screlogical test. In this dass must be included all of the cases of blood transfusion with an un favorable outcome which occurred before isoagitulination was recognized. However, even today some physicians perform blood transfusions without seriogical control. Of 23 cases in which this was

done, 73 were fatal.

2 Deteriorated standard sera. The standard sera for the determination of the grouping of the patient and done are very resistant, yet they may deteriorate and lose their aggluthation power. If sera with a west liter are used a positive agglutination test may become doubtful or even negative. The donor is best selected by the following 3 procedures: (a) determination of the blood group to which he belong by means of previously standard tired sera. (b) a direct cross-aggluthation test and (c) the bloodycalt test of Oetheleer Of 3 cases in the

literature in which deteriorated standard serum was

3 Incorrect technique of blood-group determination. In spite of its technical simplicity this determination requires a certain amount of knowledge, skill, and care on the part of the physician. Perudo-agglutination and rouleaux formation of the rythrocytes may cause disposite error. In order to avoid them many clinics and dispensaries have blood group determination made independently by a substants, and in some cases it is checked by preptition. In tables the author lists 15 fail cases, and in the text he mentions as severe complications with no fatalities.

4. Incorrect labeling. In this group are included the accidents arising from typographical errors, incorrect data of the physicians and their assistants, and mistakes due to the use of varying nomencia tures of blood groups (Aloss, Jansky Dangers-Hirschield). Four cases with harmolysis, but with a formally outcome have been found in the literature.

s Instability of the blood groups, that is, changing from one group to another has not yet been established. All cases claimed to be of this nature were disproved on careful investigation, and in most of them a new cause of error was discovered. However it must be recognized that the agglutingtion power of the crythrocytes of the same person can undergo considerable change, and that the group relationship of donor and recipient must be established with one and the same serum. In order to avoid complications of this pature it is advisable never to rely entirely on a previously determined group relationship, but to undertake a direct crossgrouping before each transhiston. One case of this sort with a fatal termination has been reported in the literature

6 Subgroups. The existence of accessory or intermediate blood groups in respect to against has not been proved. The cases which have been described can be explained easily by ool agricultustion. Unfortunately this stypical agglotisation, whatever fits explanation, has led to very section results. Therefore it must be avoided by direct results are consumptionally and the case of this character; with a fatal termination, have been recorded to date.

7 Universal doors, The literature reports at a constraint of the c

cases.

8. Anaphylaxis. While the Rierature reports several cases in which the same patient has tolerated repeated transfusions (up to 6o) without disturb-

ances, severe anaphylactic conditions (anaphylaxis and allergy) may occur and may cause death. Of 23 cases, 10 were fatal. At the present time we are mable to prevent this complication, although some progress in this direction has been made.

a. Nephritis. One of the most senous compli cations is acute harmorrhagic nephritis without hemolytic manifestations. Of 6 cases, all were fatal. This complication should always be kept in mind. In the presence of penhritis, blood transfu-

sion requires great caution.

10. Technical faults of blood transfusion. A. Air emboli The introduction of a small quantity of air is possible in every method of transfusion, but is usually not injurious. Only with gross technical errors can serious danger arise. In 2 cases cited, fatal air embolism resulted from the introduction of cm. of air Certain important rules must be followed The rubber tubing must be carefully filled before the blood transfusion. A small amount of blood must be left in the tube at the end of the transfusion. The pressure-pump apparatus must not be used with the citrate method of transfusion. B Acute cardiac dilatation in rapid blood transfusion. This occurs especially when a vein near the heart is used (ugular vein) and in myocarditis. As a rule the rate of transfusion should not exceed 100 ccm, in five minutes The quantity of transfused blood plays no unportant rôle. Three cases with fatal termination were found in the literature.

11 Unknown causes of complications In spite of correct selection of the donor according to the principles of group determination and the use of group-related blood harmolysis occurred in 48 cases and ar of the patients died. The causes of death are as yet unexplained. The author suggests that the selection of the donor may not have been accurate. G ALIPOV (Z)

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Lillenthal, H : Electrosurgery Ass Surg 1933 ECVIL SOI

On the basis of 118 operations performed with the aid of electrosurgery Lillenthal draws the following conclusions

The ranklity and character of healing in cuta. peous wounds depends upon the speed with which the incluion is made.

2 Only an instrument with extremely frequent oscillations is suitable for making the incision.

3. The rate of healing of properly made wounds is equal to that of wounds which are made with a scalpel.

4. The firmness of the immediate adhesion of the cutaneous edges compares well with that of ordinary incised wounds.

5. Wounds made slowly or with an instrument with insufficiently rapid oscillations do not heal as well as those made with the scalpel.

The histological appearance of healed wounds made electrically differs from that of incised wounds. but does not indicate tensile weakness or any other

undestrable quality 7 A wound which is made electrically is more likely to be eseptic than a wound which is made

with the knife.

8. In checking harmorrhage from the smaller vessels electrical coagulation is much more speedy than, and quite as satisfactory as, ligation. How ever large vessels should be tied.

o In sloughing wounds there is danger of recur rent or secondary hemorrhage no matter what method was employed. Most surgeons prefer liga tion in such conditions. Electrocoagulation is absolutely aseptic no ligation has the same degree of certainty

to. When local anaesthesia is employed in the section of muscle there is a sensation of electrical shock accompanied by contraction of the muscles as they are divided. Therefore general angesthesia is preferable in electrosurgery

With regard to precautions to be observed in electrosurgery the author makes the following

statements. It is believed that in the immediate neighbor hood of the heart dangerous phenomena may occur because of muscular stimulation of this organ.

No metal instrument in contact with the akin or with other instruments should be touched with the electrode.

The electrode fastened to the patient's arm or les must be firmly secured and kept from contact with wet drapings.

 No electrical spark should be employed near an explosive aniesthetic or explosive cleaning fluids.

s. When work is done in the mouth electrical contact with dental fillings and metal prosthetic

appliances must be avoided.

In conclusion Lilienthal says that operators inexperlenced in electromargery seem to have the impression that this type of procedure is of importance only for the extirpation of malignant growths and should not be employed when first intention healing is to be desired. As a matter of fact, electrosurgery as a routine represents a distinct advance over the more commonly used methods.

HOWARD A. MCKINGET, M.D.

Negus, V E.: Bronchoscopy in the Diagnosis and Treatment of Postoperative Lune Complications. Free Rev Sec. Med Lond, 1913, XXVI,

Negus discusses the causes, nature, prevention,

and treatment of postoperative lung complications. The natural defences of the lung, such as the protective closure of the larynx cough muons secretion, and ciliary action, and their protective role in the normal lung and in the lung during general and local anasthesia are described.

Under local angesthesis the laryax is often rendered insensitive, and blood, pus or foreign bodies

readily enter the traches and bronchus. Secretions and foreign bodies may be disloded by

cough, but this protective mechanism may also ial Anything entering the larynx during implication is sucked through the truckes and brouchus as far as their caliber allows. On expiration, the bronchial walls decrease in diameter and hold the foreign body more firmly The more violent the cough the more firmly the foreign body is held. Olliery action, which is an important aid in the

removal of bacteria from the lung, is interfered with in the presence of large amounts of secretion, in an acid medium, and in the presence of liquid other or chloroform. The walls of a bronchiectatic abacers are lined by transitional or squamous epithelinus without cilia.

The results of inefficient defence of the lungs and methods of treatment are discussed: I Foreign body If the presence of a foreign

body in the tracheobronchial tree is suspected, a branchoscopic examination should be made at once to confirm or disprove the diagnosis. If a foreign body is found it should be removed early in order to prevent the supporation which will inevitably fol low if it is allowed to remain.

 Diffuse suppurative bronchitis. This condition may develop after general ancesthesia as the result

of the irritation of liquid ether or chloroform paralysis of the cilis, or the aspiration of blood, pus, or vomitus. Dental sepsis is very apt to give rise to such an infection.

Bronchoscopy is of great value in cases of severe postoperative long suppuration. Removal of the pus and secretions prevents the patient from drowning in his own secretions. The secretions may be repeatedly aspirated through a rubber catheter if a tracked cannula is in place.

In scute inflammation the cedematous bronchial walls may come together during cough and prevent

the escape of the distal secretions.

3. Lung abscess and bronchiectasis with bronchiectatic cavities. The most common cause of these portoperative compilications is an applicate infected blood dot or foreign body. Entrance of blood and pus alone may came bronchitis, but is not apt to produce an abscess unless a bronchus is partially or completely blocked. The block cannot be expelled by cough, inhibitory mucus cannot reach the bac teris entangled in the clot, and ciliary action is of no avail. Even after the clot disantegrates, swelling of the bronchia wills usually prevents drainage and arration of the distal lung tissue. Granulations frequently appear and further obstruct the bronchus. Cough may raise the pressure of retained secretions or air distal to the obstruction and thus blow out the weakened walls to form bronchiectatic cavities.

Bronchoscopy should be used early in these cases to establish adequate drainage of entrapped infected materials. Granulations in the bronchial wall should be painted with a ro per cent solution of silver ni trate. Repetition of the procedure may be necessary

4. Massive collapse. If medical treatment does not remove the plug from the bronchus a bronchoscope should be passed under local anesthesia and

the material aspirated and removed.

5. Multiple bronchiectasis. Diagnostic bronchoscopy and drainage ahould be instituted in all cases. The aspiration of pus, destruction of granulations with a 10 per cent solution of silver nitrate, and dilatation of stenosed bronchi afford considerable relief Bronchiectasis is difficult to treat usually nothing more than an alleviation of the symptoms can be obtained.

A brief summary of various means of preventing postoperative pulmonary complications is given.

During tooh extraction packing of the pharynx is an important precaution. In tonsillectomy per formed under local anzerthesia care to avoid cocamination of the larynx lessens the danger of aspiration. Also of importance is a dependent position of the head during operations on the mouth under general anzesthesia. Dental sepais should be treated before operation. In operations on the nose and mouth, endouratheal anzesthesia is a safeguard and suction should always be used to remove excess accretions. The sdministration of large doses of morphine and atroph is inadvisable. Carbon dioxide inhalations at the termination of anxentesia are of value.

MARY E MATRES M D

ANTISEPTIC SURGERY TREATMENT OF WOUNDS AND INFECTIONS

Ternovskij S.: A Chaik Dressing for Burns (Der Kreideverband bei Verbrennungen) Vos chir Arch 1032 xxvii 381

For the treatment of second and third-degree burns the author recommends powdered chalk, which he has used with good results in the treat ment of over 400 children in the last five years. The advantages of this treatment are limitation of the absorption of tone decomposition products from the wound, rapid healing with minimal pain, cheapness, convenience in the handling of the dressing, and ease of nursing. The chalk dressing is prepared in the following way.

A long layer of cotton from 1½ to 2 cm thick and covered with 1 or 2 layers of gaue is dualed or rubbed with powdered chalk as is done in the preparation of plaster bandages. It is then folded up and placed in a steam bandage-sterilizer for half an hour under somewhat more than 1 at mosphere of pressure. In this way the bandage is sterilized while the chalk is rendered harmless with out being altered in its chemical composition.

After the usual cleaning bath, the chalk dressing is laid on the burnt surface, covered with another layer of cotton and fixed with a gause bandage. The dressing is left in place for from three to ten days or longer. It is then changed in a water bath

in which it is easily freed.

In non infected cases 1 or 2 dressings are sufficient to bring about healing in third-degree burns the chalk is replaced by a neutral salve as soon as granulations are formed. In burns of the face the surface is duated with sterile chalk instead of being treated with the chalk dressing. A 10 per cent scarlet red ointment is used to stimulate epithelialization.

As the author's cases of burns in children have been very severe, the mortality has been 40 per cent. G Aupov (Z)

Hinstorff D The Relationably of the Prophylants of Tetanus to the Differences in the Regional Incidence of the Disease (Die Abhaengigkeit der Tetanusprophylane vom der Verschiedenheit des regionalen Vorkommens der Erkrankung) Chirary

The tetanus bacillus is ubiquitous yet there are countries and regions in which tetanus is much more common than in others. This was evident in the

World War Tetanus is frequent in western countries and rare in eastern countries.

1033 ₹ 0

In discussing the question whether serum prophylarls should be given in every case of injury the author states that as early as 1926 failure to give such treatment was characterized by physicians and prominent jurists as negligence. Of the physicians replying to a questionnaire on this problem which was sent out by Hinstorff only 30 per cent stated that they regarded prophylaxis as necessary. in every case of considerable injury but all agreed that it is necessary in every case of field or street injury. Sixty per cent stated that it should always be given in machine injuries, and 33 per cent

stated that it should be given in household injuries.

The author calls attention especially to the fact that in 142 cases of anaphylacyteids shock which were listed in the replies to the queritonnaire there were 8 deaths. Therefore prophylaria itself is not entirely without danger. However, the danger is decreased in the norted content of the serum used does not

exceed s per cent.

The authors conclusions with regard to the recognitional distribution of tetanus are of interest He states that a study should be made not only of the under-surface earth but also of the surface earth. Voune came to the conclusion that tetamis is ner ticularly common in regions with chalky earth and it is true that dunne the war cases of tetanus were emedally numerous in the chalky Champagne rerion Bulloch and Cramer concluded that tetanus infection is favored by calcium salts. This theory is supported by the fact that in Germany's chalky island. Russen, tetanus is frequent. However in the author's opinion, a relationship between tetanus and reology has not been proved, and even bac teriological studies of samples of earth are not decides. Unleace is the important factor.

decisive. Virulence is the important factor.

In a study of the incidence of tetanus in a particular region the density of the population must be

considered. Corrected on this basis, the figures received by the author in reply to his questionnaire show that the incidence of tetamus in Hannovers ho of; per cent in Westphalia, o.5; per cent in the Rhein province, o.78 per cent in Bavaria, o.5; per cent in Brandenburg o.5; per cent in Hessen-Nazsau o.84; per cent in the Province of Saxony o.56 per cent in East Prussia, o.89 per cent in Saxony o.50 per his in West Prussia, o.50 per 1 per cent in Cidenburg i per cent in West temberg i si per cent in the Sax region, 1.31 per cent in Holstein 2.43 per cent and in Silicia,

t of ther cent Hinstorff concludes that tetanus prophylaris is not emaily important in all regions. The physician should have his decision not only on the character. of the wound, but also on the conditions present in the geographical region. In regions where tetanus is endemic, prophylactic treatment should be given in every case of injury whereas in regions where the infection occurs only occursonally it should be given in cases of wounds which have come into contact with the ground. In regions where no case of tetanns has occurred for years it is superfluous. In injuries austained in accidents with vehicles of transportation it should be given in every case even though the accident may have occurred in a region free from tetanus.

FRANK (7)

PHYSICOCHEMICAL METHODS IN SURGERY

ROENTGENOLOGY

Holfelder II. The Systematic Determination of an Optimal Rhythm for the Irradiation Therapy of Malignant and Benign Diseases (Die plan messige Bestimming dies optimalen Rhythmus feer die Stablentherapie bei malignen und benigem Erkrankungen) Stroklentherapie, 1933 xlvi

On the basis of the present stage of the scientific study of irradiation therapy the author concludes that the timely rhythm of the irradiation dosage is disputed so vehemently because investigators draw their conclusions from very different experimental conditions and there is no satisfactory standard for quantitative estimation of the irradiation dosages administered in different rhythms. In itself a reduc tion of the average wave length of an irradiation mixture to below about o or Angstrom units or an in crease of the half value laver above 1 0 mm. copper by reduction of the wave length causes no variation in the biological reactions. On the basis of Reisner's investigations regarding skin crythema as a compara tive standard, the author compares continuous irra distion with interrupted roentgen irraduction (sim ple fractional irradiation over a long period of time, protracted fractional Contard irradiation, and the saturation method of Pfahler and Kingery)

The Frankfort method, which has been used for malignant tumors during the past seven year, is described in detail. The average total duration of an irradiation series ranges from two to arx weeks, and the average total does at the disease focus ranges from 3 to 6 5 akm-unit doses or from 1 600 to 4,000 resumed in air. On the first day the disease focus is given an irradiation dose of from 50 to 60 per cent of the akin-erythems dose on the second day, only three fourths of this dose on the following day, only one-half of this dose on the following day, only one-half of this dose on the following day, only one-half of this dose and finally atfill less. After from two to three weeks the individual fractions are given at intervals of twenty four hours, and toward the end of the treatment, at intervals of forty-eight hours.

The most effective total duration of the series per disease focus is presented in a table. In crossine irradiation of a deep tumor the individual field is given each time up to from 300 to 330 or measured in air and the fields are so treated that a few days chape between repeated irradiations of the same field. The skin crythema is used as a guide

Schemes for the procedure according to the number of fields are given. Rhythmical distribution of the irradiant dose is of dedded importance for accession results not only in cases of melignant tumors but also in the numerous indications for their other them.

RADIUM

Wallgren A.: The Biological Effects of the Gamma Rays (Zur Kenntnis der biologischen Wirkungen der γ Strahlen) Acta radiol 1933 ziv 111

The investigation herewith reported, which was carried out at Radiumhemmet Stockholm, was a continuation of the author's previous research regarding the biological effects of roentgen and light rays. The tests were made on granulocytes (neutrophile leucocytes) of normal blood. The irradiation was carried out with one of the radium applicators of the Radiumhemmet which contained thirty four tubes of 50 mgm. of radium element each. The minimal distance between the lower poles of the tubes and the preparation was 3 mm. The filter was equal to 1 mm of lead. During the irradiation the preparations were heated to 37 degrees C

When the irradiation was continued for fifteen minutes some of the granulocytes became immobilized, but after the irradiation was discontinued they soon became normally active again. Under irradiation for from thirty minutes to an hour a great many of the granulocytes became immobilized, but after the exposure was stopped most of them became quite active again. When the irradiation was continued for an hour and a half the same phe nomenon was observed, but after fifty minutes a number of the cells were either dead or in the course of disintegration. The most marked effect was obtained with irradiation for from two to two and a half hours. When the irradiation was discontinued after that length of time most of the granulocytes were either severly damaged, dead, or in the course of disintegration.

The results of the experiments with gamma rays correspond in every way with those obtained in the author's previous experiments. The first demon strable biological effect of irradiation with either reentigen, light, or gamma rays was the immobilisation of the granulocytes. Structural changes did not become evident until later

Thomas, H. E. and Bruner F. H. Chronic Radium Poisoning in Rate. Am J. Rossigenol. 1933 xxix 641

Since soluble radium saits have been used in the treatment of disease for a number of years and since a number of watch-dial painters have died from the Ingestion of radium, chronic radium poisoning has received considerable attention. Following a brief review of the literature dealing with the amount of radium given in therapeusis, the authors report studies on the excretion of radium and its disposition in the body before it is excreted. These studies were extract out with a view to producing chronic

radium poisoning by the administration of small amounts of radium over a long period of time. The experimental animals were young rats. Five micrograms of radium chloride were injected at irregular intervals. A total dosage of from 40 to 60 micrograms was given over a period varying from one hundred and seventeen to one hundred and ninety one days. The rats were observed clinically at tempts at mating were made the radium content of various parts of the body and of the whole body was determined photographic plates of the ravs emitted from the bones were developed studies were made of the red and white blood cells weight changes were noted changes in the bones were atudied gross and microscopic examinations were made of the various organs, especially the bone marrow spleen, kidneys, lymph nodes, and sex glands and the rate of excretion and the quantita tive retention of radium in the body were recorded. The findings are shown by tables, graphs, roentgeno-

grams, and photomicrographs. In discussing the results the authors state that it is difficult to interpret the blood findings in the Birht of the pathology of human blood. Concentra tion of radium in the ends of the bones accounted for the earlier destruction of the bone marrow at these points. Lymphocytes were destroyed in large numbers. The mucus secreting cells of the submaxillary glands and the cells of the medulis of the suprarenal glands were more susceptible than the other cells of these glands. The injury of the liver indicated a decreased secretory and storage function of that organ. The kidneys showed acute parenchymatous nephritis. Females were not rendered sterile but normal gestation was prevented. Degenerative changes in the testides indicated that the rats would have been rendered sterile if they had lived long enough. Changes in the periosteum and endosteum indicated an irritative condition or a compensatory reaction in these locations. marked decrease in calcified bone in the central portion of the bones was evident. Ninety nine per cent of the radium in the entire body was located in the bones. A low content of radium in the mandible is explained by the low concentration of radium in the ash of the teeth which makes up most of the weight of the total ash.

or the weight of the total sain courred in the inprecial point secondary animal accurred in the inprecial point secondary animals and the weight more slowly than the control and lost weight very
rapidly before death. There was a decrease of calcination in the central portion of all bones, and a
concentration of calcium sain was found in the parts
of the bones nearest the joints. Abscesses were
formed in the soft thisses around the mandfalls.
The central two-thirds of the shafts of all long bones
showed hyperplastic bone marrow. The attendities
and all other parts contained aphatic marrow
and it opph nodes with an increase in lympholisats
and jumps and guint cells was found. The organs
and jumps and guint cells was found. The organs
dealing with calcium metabolium the kidneys, and

the intestines were found to contain a higher concentration of radiom than other soft tissues. The concentration of radiom in the fetuses of a radioactive female was only 3, of pre cent of the concentration in the parent. The quantity of radiom retained by each rat averaged 34,6 per cent. During the first week radium was ediminated to the extent of from 50 to 65 per cent. The normal elimination extends the contract of the contract of the contract of the center castablased for radiumla was 0,6 per cent per week.

The types of rays which may produce systemic changes are described. The authors concluded that the alpha particles are of chief importance as the liberated go per cent of the energy of the radium. A Learn Larne M.D.

MISCRILLANEOUS

Mennell, J. Joint Manipulation (Upper Extremity) Proc. Rev. Soc. Med., Lond., 1933, xxvi, St.

Mennell points out that conservative use of manipulation, in skilled hands, becomes a safe temedy which should be used more frequently

To treat a patient scientifically the first essential is accurate diagnosis. This is possible only by a thorough study of the physiology of joint movement, including movements which are not under voluntary control and the attachment of the ligaments of the birs.

This article describes in detail all movements of the joints of the upper extremity and gives as explanation of beneficial manipulations.

Aumerous plates are included.

GERTROME BEARS, R.A.

Schinz, H. R: The Operative and Irradiation Treatment of Cancer (Operative and radiother poulische Behandlung der Kreise) Strakfer-Herspie, 1933 414, 7

The author rejects the numerous proposals which have been made for the prevention of cancer except for the small number of occupational cancers. It is emphasizes that the combating of cancer require the elimination of all disputes of competency between the surgeon and the irradiation therapist,

recognition of their equality and their cooperation. The indications recognized by Formell for radiotherapeutic and operative methods are presented schematically. In operable and inoperable cases of carcinoma of the skin, lips, and cerviz, which constitute 10 per cent of cases of cancer the treatment of choice is irradiation alone. In cases of carcinoms of the stomach, colon, rectum, kidneys, bladder and prostate, which constitute 43 per cent of cases of cancer surgery alone is the treatment of choice when the condition is operable and irradiation is being worked out for those which are inoperable. In cases of carcinoms of the oral cavity thyroid gland, breast, overy and vagina, which constitute 38 per cent of cases of cancer the treatment of choice is a combination of irradiation and surger

On the basis of statistics from the literature of the world which he presents in tabular form, the author shows the advantage of irradiation therapy as compared to operation in cancer of the lip and cancer of the cervix. He compares the five year cures obtained at the Radium Institute of Paris with those obtained by operation at the Brocac Hospatal in Paris. The same conclusion may be drawn with regard to irradiation and operation in the treatment of malignant tumon of the oral cavity. The advantage of irradia that is especially evident in carcinoma of the larynx and observar.

The frequency with which different methods of treatment were used in 350 cases admitted to the Zurich University Sungical Clinic is shown in a table. Fourteen and three tenths per cent of these cases were treated by operation alone, 43.4 per cent by intradution alone, and 31.4 per cent by both opera

tion and irradiation.

Next, the special therapeutic measures and their results are grouped according to organs. A new classification for carcinoma of the breast is presented.

This is based on separation of the primary tumor stage from the stage of regional metastases and per mits a comparison with the usual Steinhal stage. The primary stage is designated by Roman figures and the stage of glandular involvement by Arabic figures. The author calls attention especially to the epicritical proposals for the treatment of carcinoma of the breast—for Stages 1a, 1b 2a and 2b radical operation by sharp dissection or with the electrotome for Stages 2c, 2b etc. and Stages 3a, 3b 3c, etc. preliminary fractional irradiation to render the condition operable followed by operation for Stage 4, only protracted fractional irradiation for a pal listive effect and for postoperative recurrences ir radiation (for small recurrences the highest roentgen dose)

In conclusion all of the cases of carcinoma irradiated and followed up during the year 1931 are sumarized in a table. Of 476 patients, 139 were free from symptoms.

HERER KERCHROFF (G)

MISCELLANEOUS

CLINICAL ENTITIES —GENERAL PHYSIO-LOGICAL CONDITIONS

Nissen, R.: The Blood Reservoirs in Man (Die Blutreservoire des Menschen) Klis. Il ciescòr., 1933 i. 16.

Nimen a surgeon discours the blood reservedra in man from the purely mechanical standnoint, that of gross physical relationships. He first compares pathological reservoirs to physiological reservoirs. As pathological reservoirs, he cites varicose veins, in which as much as 114 liters of blood may be retained, the signs of stasis in heart tamponade and encroschments on the space around the heart which cut off the return of blood to the heart. In cases of acute heart tamponade both of the vene caves are morally strangled, whereas in chronic cases such as those of mediastinopericarditis, only the inferior rena cava is involved. Of special in terest are the nathological venous reservoirs in arteriovenous aneurisms which, according to Wolihelm, may increase the absolute amount of blood by from to to so per cent. This pathological blood storage may be likened to failure of the normal reservoir function. The latter is of importance in the severity of operative trauma which depends to a considerable extent on the quantity of blood in circulation. The quantity effect is made evident by simple expansionation experiments and anesthesia experiments. Nearly every deep general angethesis causes an overhilling of the blood vessels of the muscles such as occurs in freezing, which is compensated by contraction of the skin capillaries. If the skin capillaries are opened by heat stimulation, a dangerous fall in the blood pressure occurs. The conditions are similar in abook

From these observations a new theory has been evolved with regard to pelast anesthesis. According to this theory there is a marked hyperemia of the lower extremities, the intestines, and the pelvic organs which is due to a vasomotor paralysis. As a result, blood cannot be supplied to the heart from these regions in moments of particular stress by contraction of the blood vessels. The blood pressure therefore falls and collapses occurs. The renal vessels do not participate, a fact to be considered in prostatectomies performed in the presence of renal injury.

Peritonith leads to injury of the entire capillary system. The lung is able to sdapt finell in a cruds mechanical manner to the quantity and rapidity of drealation of the blood. This is evidenced in massive attlectuals. On the pathological side there is an increase in the negative intrathoracte pressure which produces a suction action that, like paralysis, causes a dilatation of the blood vessels. Respiration under positive pressure could not be reacted to addy without the physiological blood received of the liver and sphem. For this attention of the intrationated pressure, especially lovering of the pressure are proceeding to the program within the respiratory passages, such out targe quantities of blood lists the pulmonary demission and considerably reduces the bleeding hards and appear of the pressure of the pressure of the cattendard of the proceeding of the proceeding of the process of the proces

According to the physiologists, the spicen is ose of the child reservoirs of blood, but as a normal spicen may be estimated without causing a marked change in the quantity of circulating blood, it is evidently of less importance as a blood reservoir than seems apparent from experiments on animals.

Eliason, E. L.: The Surgery of Diabetic Gengrens.
Ann Surg. 1933, north, 1

This report is based on 170 cases of disbetic parene operated upon at the Philadelphia General Hospital. This group constituted 13 per cent of the cases of disbetes admitted to the hospital. 10 s per cent of the cases the gaugement counted in the lover extremities. One half of the patients did not know that they had disbette until the gaugemen occurred infection was a complication in 87 per cent of the total number of cases and in 87 per cent of the fatal

The author concludes that early surgical treat ment is essential in diabetic gangrene, but the patient must be properly prepared for it. The pre-operative preparation should include the siministration of insulin, carbobydrates, finide, and perforgens autitorin.

Of the cases reviewed, a mid-thigh amputation was done in 76 per cent. In infected cases drainage was established. Spinal amesthesia was used in 80 per cent of the cases and local amesthesia in 17 per cent.

According to statistics diabetics with gaugeness have had seven yours added to their lives by modern methods of treatment. In the cases reviewed the operative mortality within twenty four boom was 3.5 per cent the bougital mortality #1.8 per cent, and the mortality within a year after the operation, 55 per cent. Only 10.4 per cent of the last 67 patterns were all value after eighteen mooths.

MANUEL E. LEWISSERDE, M.D.

Andrewes, C. H. Further Secological Studies on Fowl Tumor Viruses J Path & Bacteriol., 1933 mayli. 27

The studies reported were carried out to deter mine whether the neutralising properties in the sera were true antibodies, and whether the viruses were identical or merely antigenically related.

The results indicated that viruses from the differ ent tumors studied were serologically neither iden-tical nor yet wholly distinct. The sera showed a certain degree of specificity which may be regarded as further evidence that their neutralizing properties are due to true antibodies and not to a non specific

We have the analogy of the bacteri onhages. All fowl-tumor viruses have some degree of antigenic relationship, but no two have yet been found to be serologically identical. The author beheves that they are probably interrelated much as are members of the same group of bacteria.

M. HERRERT BARKER, M.D.

Kaplan, I I A Report of Over 1 000 Unselected Cancer Cases Treated in 1931 and 1932 at the New York City Cancer Institute, Welfare Island Redicios 1933 xx, 453

The study of 1 236 cases admitted to the Cancer Hospital on Welfare Island, New York, shows that cancer is an important cause of death in all races. However certain cancers are more frequent in some races than in others or more frequent in one sex than the other For example, cancer of the cervix is in frequent in Jewish women, cancer of the skin, mouth, and tongue is quite uncommon in the colored race, and cancer of the breast is much less frequent in males than in females.

The frequency of involvement of the different organs in the cases reviewed by the author was as follows cervix, 17 per cent breast, 11 9 per cent stomach, 8 7 per cent rectum 8.4 per cent tongue, 4.8 per cent face, 4.8 per cent prostate, 4 per cent ovary 3 per cent, and cesophagus, 2 1 per cent. The other organs were less frequently involved.

In cases of cancer of the hp the results of inter stitual radium therapy were less successful than those obtained by surface radium therapy

Of the cases of malignancy of the tonsil, all but a were those of men between fifty and sixty years of age. In the majority the lesion was a squamous celled epithelioms.

In cases of malignancy of the resophagus, favor able results were obtained only when gastrostomy was performed early before complete dehydration had occurred. In most instances emergency gastrostomy was followed by rapid death. As a rule the treatment consisted of gastrostomy forced feeding and V ray irradiation through the mediastinum. In a few instances radium therapy was attempted, but the results were not encouraging.

In cancer of the stomach, early diagnosis and early radical operative treatment are essential to lower the death rate. The author has found irradia tion of little avail.

In most of the cases of cancer of the rectum radium treatment was given with the proctostat which eliminates radium necrosis to a great extent and entirely prevents perforation necrosis and associ ated peritonitis. Death was due in most instances to cachezia and extension of the local lesion.

Cancer of the breast occurred more frequently in white women than in colored women and slightly more frequently in Gentile women than in Jewish women. The right and left breasts were involved with equal frequency Bilateral involvement was uncommon. The condition was most frequent be tween the ages of forty and fifty years. The most common lesion was an adenocarcinoma. Next in frequency were the duct-cell and scirrhous types of The best results were obtained in cases treated by pre-operative irradiation and careful surgery Endothermic surgery was of value for ulcerated bulky tumor growths but did not give increased assurance against the development of metastases

Ovarian malignancy occurred twice as frequently in married women as in unmarried women and 5 times more frequently in white women than in colored women.

Cancer of the cervix occurred most often in white Gentile women who were married and had borne children. The lesion was most frequently a squam ous-celled epithelioms and next most frequently a plexiform carcinoma. Adenocarcinoma was found in only 11 cases.

In no case of carcinoma of the penis was the Wassermann test positive. In some cases dissection of the regional nodes was done. High voltage X ray therapy was used in all cases, and local radium applicators were employed in several. Only 2 patients survived. Ten rapidly succumbed to sec ondary infection and metastases

JOSEPH K. NARAT MLD

GENERAL BACTERIAL PROTOZOAN AND PARASITIC INFECTIONS

Schulze, W The Anatomical Conditions for Metastasis in General Infection (Ueber die anatomischen Bedingungen fuer die Metastasierung bei der Allgemeininsektion) Deutsche Zischr f Chir., 1933 CCXXII 34.

This work is based on experiments on rats in ected intravenously with small amounts of India ink after special preparation and on 365 clinical cases of general infection. They show that the shape of the capillaries is of importance in the frequency and type of bacterial lodgment in blood infection. The India ink injected into the rats was deposited in the individual organs in varying quantity and form depending upon the structure and form of the capillaries. The following 3 types of capillaries were distinguished

Wide capillaries with a slow current and a close relationship to the reticulo-endothelial system To these belong the capillaries of the liver spleen. bone marrow, and lymph glands. In such capillanes the India ink was deposited in a finely divided form, but was soon and quickly carried off by the blood or lymph route. In blood infection in man these organs undergo changes manifested by marked cellular reactions in the reticulo-endothelial system, but seldom show shures cornection.

out season slow abscess formation.

2. Elongated, loop-forming capillaries with wide variations in width and a close relationship to reticulo-endothelial system. To these being the capillaries of the lunp and kidneys. In the animal experiments the lumina of the capillaries in this group were found in places completely obstructed by the India ink. However the India link was rapidly eliminated because of the close relationship of the vessels to the reticulo-endothelial system. In blood infections in man, abscess in these organization are frequently found in adultion to cell profilers.

 Elongated narrow capillaries with only a alight relationship to the reticulo-endothelial system.
 To these belong the capillaries of muscles, perforterm and brain. In the animal experiments a room or less extensive complete occlusion of the capillarish permoid of India lak was found in these organ. The climination of the India lak was delayed, but the total quantity lodged in the organ was small. In agreement with these findings, the number of besterial lodgments in these organs in clinical cases is relatively small, but abscence always develop at

these alica. Further animal experiments yielded additional evidence of the importance of a focus of diminished resistance for the lodgment of bacteria from the blood in general infection. When necroic transverse produced in an organ the experiments showed whatever the experiments are consistent of the control of the con

Finally anatomical researches and investigations on freshly amputated legs showed that on contraction of the muscles of the legs there is a decrease in the negative intravenous pressure which favors the entrance of infectious material into the directation.

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INTERNATIONAL ABSTRACT OF SURGERY

DECEMBER, 1933

COLLECTIVE REVIEW

THE PHYSIOLOGY OF THE URINARY TRACT AND ITS PRACTICAL APPLICATION

FRANK M COCHEMS, M D., CHICAGO

KIDNEY

VIDAL studied the blood vessels and excretory system of the kidney in detail by means of injection preparations, dissection, and mys, and caree to the following onclusions

The renal arteries, particularly the polar artimes, vary greatly in number, origin, and site of entry into the parenchyma, but once within the lidacy substance they follow a fairly straight course. In the meduliary zone are given off fine terminal branches without anastomoses. The terminal branches without anastomoses. The privic region has an arterial supply of its own. Around the pyramids and smaller calyces the vinis form arches which receive branches from the cortex on their peripheral portions and branches from the meduliary zones on their central parts. An abundance of venous anastomoses facilitates remipensation within the venous system.

Vidal emphasizes the necessity of watching for sperimenerary vessels, especially in hydrone-phrons. He states that the fairly straight direction of the arteries within the kidney substance and the division of these vessels into an anterior and posterior plexus explain how nephrotomy can be done in an almost bloodless area. The medul hay zone is vascularized not only by the efferent branches of the glomeruli but also by fine branches given off by the renal arteries. Consequently this zone recurse a sufficient blood supply even when the flow through the glomeruli is impeded by correct pressure. Because of the distribution of the Posterior renal arteries pyelotomy should be done preferably on the posterior surface of the

Cysts of the kidney. Colston reports six cases of calcified cysts of the kidney. Calcified cysts are formed by hemorrhage into simple serous cysts or as the result of the natural evolution of a per renal hematoma. In the last of the six cases presented by Colston the direct etiological factor was certainly trauma. The symptoms are due to the pressure and weight of the cyst. The mass can usually be palpated at times by the patient him self and a good flat roentgenogram will show its outline. The treatment indicated is excision Prevention of the development of calcified cysts depends upon the removal of simple cysts before hamorrhage occurs into them, and correct treatment of the traumatized kidney.

Renal pers injury Orofino studied the changes in the kidney and the systemic effects of ligation of the renal vein. He states that Alessandro Giani, Morel Papin and Verliac, performing hga tion through the pentoneum, noted a marked development of the secondary veins which allowed survival of the kidney However this operative method is not applicable to human beings. In experiments on dogs, Orofino performed unl lateral ligation of the renal vein by the lumbar route collected the unne of both kidneys by means of an extrophy of the bladder, and studied the functional renal changes. He found a decrease in the elimination of salt solutions by the kidney operated upon and hyperfunction of the other kidney No histological alterations coin ciding with the functional changes were noted.

Orofino states that in cases of damage or a lesion of the renal vein nephrectomy should be done as ligation of the vein may be followed by a toxic effect on the organism produced by the kidney

Discretic cerebral kormones From experiments on rabbits Minescript concluded that certain duretic cerebral hormones are liberated by damare to a definite center in the fourth ventricle. When Bernard demonstrated that, in rabbits, nuncture of a determined point in the floor of the fourth ventricle provoked polypris sesociated frequently with givcosuria, the link between the nervous system and renal function was apparently discovered. The various links of the neurogenal chain along which the stimulus passed then re mained to be determined. If the atimulus was transmitted in spite of interruption of the pervous system, it would be necessary to admit the otesence of an intermediary agent between the reflex and the atimulus. The action of special substances of endocrine origin which hones shout an oliguna or polyuria has already been shown.

In roar Rougguin demonstrated the existence of hormones. In 10.08, Olivet and Frankel completed the study and made experiments showing the presence of special discretic substances liber ated by puncture of the floor of the fourth ventricle and the cerebral uvula. These substances are chemical and have hormonal characteristics. being able to coordinate the activity of certain organs with that of other organs by way of the blood. In the serum of animals subjected to puncture of the floor of the fourth ventricle Olivet found substances which were transferable to other animals and had a strong diuretic action on the latter From experiments on rabbits he concluded that stimulation of the "salme center liberates into the blood stream cerebral bormones with a "chlorunc action which, when concentrated and injected into another animal, produce the same changes in that animal, namely, an increase in the urinary chlorides and in the fluid output.

Relation of prostatic hypertrophy to renal function. Calci believes there is a definite relation be tween the degree of prostatic hypertrophy and renal function. He states that the alterations at the neck of the bladder caused by an enlarged prostate change the course of the vas deferens, thereby producing a kink in the ureter which slowly forms an obstruction to normal emptying of the urine into the bladder and creates renal insufficiency From experiments which he per formed on does to determine whether the prostate has an internal secretion exerting an effect on renal function be drew the following conclusions

Absence or an increase of the prostatic secretion does not cause notable changes in renal function.

 Prostatectomy increases discresia at first and decreases the relative and absolute quantity of area excreted without changing the arid content of the blood

 Supplying prostatic serum or transplanting a prostate to a normal or prostatectomized animal provokes objected, an increase in the orea excreted.

and a change in the blood metabolites. Prostatectomy causes a notable increase in weight, while the administration of serum or

transplantation of the prostate causes a decided decrease in weight.

s. The changes mentioned do not warrant the conclusion that the prostate gland has an endocrine function.

Exernation of the hidney Spinelli described the course and origin of the renal nerves and experimentally studied the effects of chronic irritation of these nerves on the kidney from an anatomicopathological point of view. In experiments on does he produced a chronic state of irritation by twing a larger affix snare around the point of origin of the renal pedicle. From his observations be concluded that the nervous system exerts an effect on renal function, and that chronic inita tions of the renal pedicle produce changes which diminish renal activity. He states that the chronic mechanical irritation of the kidney and sympa thetic periagraic nerves causes very definite leglons of a degenerative type

Following a brief description of the innervation of the kidneys. Lozzi discusses the different theories regarding the anatomofunctional effect of renal energation and renal decapsulation. In twenty clinical cases of partial enervation and eighteen of decapsulation which he reports, func tional tests with indigocarmine and phenokulphonphthalein made over a prolonged period of time and repeated re-examinations revealed no damaging effect of the operations on renal func tion. From the findings in these cases Lord draws the following conclusions

r Renal decapsulation and partial renal ener vation have the same vasomotor effect on the renal vascular system.

 Renal decapsulation causes no immediate or delayed damage to renal function.

3 In reflex anuria, renal decapsulation promptly re-establishes diuresis.

Pezcoller states that renal enervation was practised on man for the first time in 1921 by Papin. By 1926 it had been done in five hundred cases. Carrel, Lebenhofer Carleton, and Dederer believe that the renal nerves have very little influence on the function of the kidney Dogliotti and Mairano confirmed the theory that decortication of

the renal artery stimulates the function of the kidney and that the resection of nerve fibers notably decreases it. They believe that in enervation of the kidney the nerves should be left at limited intervals. Nicio found that periarterial sympathectomy several months after operation may cause a considerable reduction of renal function. Vitale also found that it reduced the function of the kidney In some of Pezcoller's experiments the lesions were very slight and in others very marked. In some with evidence of senticzmia only a slight hyperzemia, a little inter stitual hamorrhage, and slight leucocytic infiltra tion around the vessels were found. In others, the knows were more grave, the parenchyma being reduced to islets. In all, the inflammatory changes were uniformly distributed in both kidneys. In a senes of experiments on animals, staphylococca were injected intravenously and unilateral ener vation of the kidney was done. Percoller believes that the difference in the behavior of the ener vated and non-enervated kidney is not attributable to enervation. He concludes that the renal nerves have no effect on bacterial invasion of the parenchyma and do not modify the course of infection in the kidney

Reno-gastro-intestinal reflex. Tixter and Clavel call attention to the fact that not infrequently in cases presenting symptoms of partial or complete intestinal obstruction alone or dominating the clinical syndrome no intestinal disease is found at operation and the gastro-intestinal symptoms are discovered later to be due to either renal or retropersonneal factors such as calculus, hydronephrosk, hemorrhage, or infection. They believe that this phenomenon is explained by motor or inhibi tory reflexes of the intestine, the point of origin of which is in the sensory nerves of the kidney, treter or posterior parietal peritoneum. In order to determine the influence of renal and peritoneal stimulation on gastro-intestinal motility they introduced a balloon into the stomach or intestine of a dog and made kymographic tracings of the contractions following stimulation of kidney, ureter and posterior peritoneum. They attribute the oc currence of the reflex to an individual predisposi-

Renal function Steffanutti suggests the use of two dyes in the determination of renal function. He states that Orzechowsky, Liang, and Schemin ky demonstrated that the concentration of dyes is always lower in the urine secreted by perfusion of the glosseruli than in the urine secreted by perfusion of the tubules, and that in the tubular por tion of the kidney only substances more or less soluble in lipoids are secreted. Steffanutti demonstable in lipoids are secreted.

strated that the separation of injected dives is associated with perfect kidney function. In normal animals, the renal elimination of the azonhen ('azofucsina) was typical of each injection The kidney of warm blooded animals is not fundamentally different from that of cold blooded anmals. In the diagnosis of renal diseases in the higher animals and man, the methods now being employed are based on the use of a single dye such as phenolsulphonphthalein, methylene blue, or indigocarmine. When only one dye is used it is difficult to draw conclusions regarding the degree of function of the renal system and to evaluate dysfunction quantitatively in renal diseases of a medical nature such for instance, as nephrosis. The injection of two dyes offers a new means of comparing the concentration of the urine. The combination of dyes best adapted to the study of renal function is still undecided. Hober stated that urinary secretion is the result of two intrinsic components of the kidney one the glomerular component, the other the tubular component. Steffanutti used an injection composed of four parts of 1 per cent cianolo solution (blue) and one part of 10 per cent phenolsulphonphthalein solution (red) These solutions are non-toxic and remain unchanged in their course through the or ganism The quantity of phenolsulphonphtha lein excreted in the urine quickly attains the maximum and then rapidly decreases, whereas the quantity of cianolo decreases very slowly. The results are practically alike in both kidneys few minutes after the mjection the concentration of phenolsulphonphthalein in the urine is tentimes greater than that of cianolo Hober attributes the rapid elimination of phenolsulphonphthalein to concentration by the epithelium of the renal tubules. The cianolo is eliminated by the kidney slowly as through a filter, without accumulation or concentration. It therefore appears that the function of one component of the kidney is the massive and ramd elimination of substances ex tracted from the blood and highly concentrated, while that of the other component is a constant slow filtration of substances remaining in the urine at a concentration equal to or a little higher than that in the blood. The injection of two dyes shows that in the normal kidney these two functions are equal, whereas when one of the two parts of the kidney is abnormal they are unequal. The method is simple and permits an exact quantitative evalu ation of renal function. The findings from its use may be summarized briefly as follows

In the higher animals the kidney exercises on dyes injected into the tubular and glomerular regions an action of separation the type of which depends upon the character of the dyes used and the condition of renal function.

2 The coefficient of separation of injection indicates the relation of balance between the glomerular function (action of filtration) and the function of the renal tubules (secretory action)

Onell. Chahanier, and Leln describe Volhard a functional test of the kidneys as consisting of two parts, dilution and concentration. The dilution part is carried out with the nations in hed. At 8 a clock in the marning he is given a soo come of water or tea to deink during a period of half an hour. Urine specimens are then collected every half hour for four hours. Normally 1 too c.cm. or more are eliminated during this time. The digretic curve reaches its maximum at the third half hour and rapidly falls after the fifth half hour. The specific gravity of the impe varies inversely with the secretion. Any deviation from these rules is revended as an indication of kidney disease. In the concentration portion of the test the nationt is given a waterless diet for twenty four hours. Normally the specific gravity of the urme reaches from 1 oas to 1 oto in from ten to twelve hours. A lower specific gravity is believed to indicate impairment of kidney function. On the basis of considerable experimental study Onell, Chabanier and Lelu concluded that Volhard a dilution and concentration test of renal function is not to be recommended as its results are influenced by many extrarenal factors such as fever prevedenta, cardiac disorders and diar

In a general review of renal function tests, Chavannas states that according to the differences in the physiological principles underlying them the methods may be classed into two groups substance threshold methods and methods based upon the determination of constants. An example of the first group is the sugar tolerance determination, and an example of the second, the determination of the content of urea or any body waste product in the blood. Both groups have advantages and disadvantages. In their use as prognostic guides in general surgery it must be bone in mind that factors such as the age, weight, and general condition of the patient, the time of day at which the test is made, and the presence of

Musor and Dagnino believe that vital phenomena should be studed is row, and that the intimate mechanism of functional disturbance of the rend parenchyma cannot be dedoced from an tomicopathological findings. In studying the basic concepts of renal function, tests were made by first, partial examination second, provoked

toxic substances have an influence on the results.

elimination (coloring), third, tests of dilution and concentration fourth, study of renal function tests. Resides a hypothetical internal secretion the kidney secretes numerous other substances maintains the acid-base balance of the blood, and is of importance in the maintenance of the hydrogen-ion concentration. The Italian achord claims that creatin is not toxic, but according to Pasteur and Valery-Radot, a content of more than o on am, of creatin in the blood is fatal. In the cointon of Mucoz and Dagnino, the persence of creatin in the blood is an indication of toxic retention due to renal dysfunction. The best idea of kidney function is owined from the curve of someons divires a The secretion of the kidneys conforms to laws and can be expressed by mathematical formula. When the kidney eliminates ures at a constant concentration the "debit" varies proportionately to the square of the concentration of uses in the blood. When the concentration of ures in the blood is constant, ures is eliminated at variable concentrations and the dehit is inversely proportional to the square root of the concentration of ures in the urine-When the concentration of urea in the blood and the concentration of uses in the urine are equally variable, the uresc "debit varies in direct proportion to the source of the concentration of urea in the blood and in inverse proportion to the square root of the concentration of urea in the urine. In normal subjects this value is 0 070-All substances have a constant of secretion. The secretion of a substance begins only when the concentration of the substance has exceeded the

Diguino Ambards constant is the most exact molex of renal function. Silva and Hervé, Hellstadius, Harding and Urquhart, and Lebermann have discussed the more common renal function tests and agree that the urea tolerance or urea-clearance test permits the most accurate estimation of renal function.

physiological limit. In the opinion of Mutos and

Tahanelli studied in some detail the method it testing the functional capacity of the kidneys on the basis of the elimination of sodium hypomiphite which was first described by Nyiri in 1933. He believes that intravenous administration of the hypomiphilite is best and that when the test is carried out correctly it is equal to the other tests in current use.

Chwalla points out that the border of operability in bilateral kidney disease must depend upon the judgment of the surgeon rather than upon functional tests. He states that the lodgosar mine test is the most reliable but even this may give false results, as, for instance when the pa-

tent has taken insufficient water or there is bladder retention.

Busen and Constantinesco review the literature on the immediate functional compensation of the remaining hidney after nephrectomy and report 3 cases in detail. From a comparative study of Ambard's constant and phenoisulphoriphithalein tests in the determination of functional compensation they draw the following conclusions.

x When necessary, a normal kidney is able to assume the function of both kidneys in less than twenty four hours because of its reserve functional caned:

2 Nephrectomy produces a disturbance in the elimnation of inorganic salts and other blood substances on which the integrity of the alimentary inct depends. Twenty four hours after nephrec tomy urea is eliminated in a concentration which can be compared to the maximum or normal concentration. The equilibrium of elimination is reestablished in from five to seven hours.

3 In the determination of the functional compensation of the kidney after nephrectomy the phenoisulphoughtalein test is of great and Ambard a constant is uncertain, probably on account of the disturbance of bowel elimination which occurs in the first days following the operation

Carbart describes an original method of estimating lidney function by means of intravenous arography. In this procedure, 15 c.m. of x, 3 4 5, 6, and 8 per cent skiodan solutions are placed respectively in an vials of similar size and shape, and, in a seventh vial, are placed 15 c.m. of urine reflected thirty minutes after the intravenous in lection of skiodan. Roemigenograms are then made of the seven vials simultaneously and the percentage of skiodan in the urine is estimated by comparison. When the kidneys are normal, 40 per cent of the skiodan is eliminated in thirty minutes.

Intracensus serography Swick presents a prehuman report on the oral and intravenous use of sodium ortho-dochippurate in excretion urog raph) He states that he obtains satisfactory roentgenograms in 50 per cent of the cases in which he administers it orally

Komblum believes that much of the dissatisfaction and failure in the use of intravenous urog raphy is due to improper roentgenographic technique. One of the most common causes is the bowel contents especially gas. In the procedure used by komblum a plain roentgenogram of the abdonen is made first, and if too much gas is present, a thorough enema is given and the patient them re-examined. If gas is still present after the expelision of the enema, a purge is administrative to the content of the enema, a purge is administrative.

tered and the examination is put off until the next day To obtain more complete filling of the pelvis and ureters, a compression bag is used. To elimi nate the possibility of error in the reading of the roentgenograms from overdistention of the pelvis by the bag one roentgenogram is made before the compression bag is used. While the time interval between the taking of the roentgenograms of a series is not important, intervals of fifteen min utes, forty five minutes and one hour and fifteen minutes after the injection are usually advocated As a rule the early roentgenograms of a series are the best Multiple exposures on a single large film are most satisfactory. To be of significance morphological and functional abnormalities must be constant in all roentgenograms. One roent genogram of the series is taken with the patient in the vertical position to determine mobility, but otherwise the patient is kept in the recumbent position during the entire examination. In the reading of the roentgenograms it is not sufficient to be familiar only with the morphological changes incident to the various pathological processes. One must be competent also to interpret functional activity and to evaluate the effect of such activity on the morphological changes present. Complete and constant visualization of the ureter. which need not be dilated is indicative of obstruc tion. Persistent absence of dye in the renal pelvis and ureter indicates congenital or acquired absence of the kidney permanent loss of kidney function, or temporary absence or inhibition of kidney function Hyperfunction alone produces an intensification of the pelvic shadow such as is to be seen in compensatory hypertrophy of one kidney when the other kidney is diseased.

Heckenbach states that in intravenous pyelog raphy the ureter is never visible in its entirety it is normal. Complete filling is pathological, being caused by a disturbence of contractility due to obstruction, infection or toxicity. Almost always the pelvis and upper third of the ureter are filled before segments of small or large size are seen. The shorter the segments the greater the motility and the tendency toward spasm and the longer and wider the segments, the less the motility and the greater the tendency toward atony third and the greater the tendency toward atony.

Hydronephrosis Hosford divides the causes of hydronephrosis into the congenital and the ac quired He limits the term "congenital" to hy dronephrosis present in the newborn or discovered soon after birth. Cases of congenital obstruction are divided into (1) those of obstruction in which a lesion such as a stricture, narrowing or fold is found and (2) those of megalic-ureter and hydronephrosis, in which no mechanical obstruct

tion can be demonstrated. In the latter, deficient development of the musculature of the ureter

may be the cause.

Cases of acquired hydronephrosis may also be divided into two groups (1) those with a demonstrable macroscopic obstruction due to a calculus. neoplasm, or tuberculous inflammation in the meter ureteral strictures, or meteral kinks from aberrant vessels or abnormal renal mobility and (2) those with functional obstruction. Peristalsis begins in the major calyces near the tips of the papille, passes downward over the pelvis and the preter and slows down definitely at the pelvipreteral function. Numerous experiments to de termine the effect of its interruption have failed to show even the earliest degree of hydroneohrosis.

Hydronephronis is divided into the renal, pelvi renal, and pelvic types. The renal type is usually due to calculus disease, and the pelvirenal type to definite obstruction below the ureteropelvic function. The cause of the pelvic type is obscure. Among the causes suggested for idiopathic hydropenhrous are ureteral stricture, abnormal mobility of the kidney aberrant renal vessels, and folds and valves at the pelvi-ureteral junction. While these factors may be responsible occasionally they are not constant findings and are to be con-

sidered secondary rather than primary

Experimentally pelvic hydronephrosis has been produced in rabbits by simultaneous ligation of the ureter and the posterior division of the renal artery A ring muscle or sphincter has been demonstrated at the pelvi-ureteral junction but by pertrophy of this bundle has not been found and simple spasm is not likely to cause dilutation of the pelvis. The theory that pelvic hydronephroats might be the result of congenital deficiency of the musculature of the pelvis cannot be proved. and all facts are against it According to the most satisfactory explanation pelvic hydronephrosis without an apparent primary obstruction is due to achalana or lack of relaxation with a superim posed secondary infection and an associated disturbance of the neuromuscular mechanism.

To study the changes occurring in the renal tubules in progressive hydronephrosis Johnson ligated and divided the left ureter at the ureteropelvic junction in a number of young normal rablita. He found that dilatation began in the glomerulus and convoluted tubules and soon involved the papillary ducts. At the end of a month atrophy began in the glomerulus and proximal convoluted tubule. Atrophy of the se cretory portion of the kidney then continued with progressive dilatation of the collecting ducts. At the end of three months, some of the glomenill had come into direct communication with the collecting tubules as the result of shortening straightening and finally disappearance of the convoluted tubules. By the end of five months the communication was entirely lost. At this time also there was maximum dilatation of the collecting tubules. Gradual atrophy and shrink age in all dimensions then took place.

Cusani observed that in cases of perfureteral sympathectomy certain changes in the form of ectaria take place and spread as high as the cortical zone. This observation led him to perform experiments on dogs in which he denuded the ureter of its tunics adventitis. The denudation was followed by hydronephrosis of varying degree and by dystrophic disturbances caused by the interruption of the nerves of the ureter. The dystrophy became a purely dynamic factor causing a disequilibrium which had a harmful effect on the walls of the tubules and glomeruli. Cusani concludes that such a dynamic factor may be responsible for hydronephrosis which has no apparent cause.

McCaughan found that following simple water diuresis the pressure of urine in the renal pelvis increases about so per cent. In experiments on does he performed bilateral abdominal ureterostomies, and after determining the maximal secretion pressure for the animals, performed a unilateral denervation and then determined the maximal pressure again. He found that following the renal denervation the pressure of the urine

was not significantly increased.

Calculus Papin reports a study of one hundred and thirty-six cases of renal calculi, of which one hundred and twenty nine were treated surgically He draws the following conclusions

In cases of renal stone radical operations are much more serious than conservative opera-

tions. Pyelotomy has almost no mortality 3 A conservative operation should not be

chosen when recurrence is almost certain. Papin attributes the low incidence of recur rences in his series to the fact that a radical opers

tion was done in half the cases.

Pyclorenous backflow Sacco states that Blum, in 1912 was the first to determine the mechanism of pyelovenous backflow. He discovered it by finding collargol in the peritubular lymphatic spaces. Sacco says that under normal conditions there is no direct connection between the kidney pelvis and the kidney With the exception of ounotic and phagocytic processes, the backflow of a fluid under pressure in the renal pelvis probably begas as a rule at the point of least resistance. Ac cording to some, fluid introduced under pressure into the pelvis becomes diffused in the kidney through the urinary tubules. The fundamental question concerns the degree of pressure needed to produce pyelovenous backflow. Shiga and Traut demonstrated that, in normal kidneys, the pressure can be greater than secretory pressure and at times may reach 220 mgm of mercury

The urinary tubules, interstitial lymphatic system and renal veins may be considered a mass of spaces and canals through which the pelvic con tents can find a more or less complete route of discharge when the normal outflow of the ureters is blocked. The ideal route is through a rupture of the forms. In the human kidney, the pelvic contents usually pass into the venous system by the retrograde route through a rupture of the fornices, and only exceptionally by canalicular reflux. Under pathological conditions pyelovenous back flow takes place at a pressure less than that nec essary for secretion in the normal kidney A sudden or gradual increase of the endopelvic tension due to a temporary or definite occlusion of the treter, penstaltic waves, strong contractions of the abdominal walls, direct or indirect trauma to the kidney, or instrumental intervention will cause the pelvic contents to pass directly into the venous system and then into the general blood stream. The direct passage of the pelvic contents into the general blood stream through ruptured fornices protects the renal parenchyma and may retard complete destruction of the kidney

URETER

Function. Trattner presents a new instrument, the hydrophoragraph, or water nerve recorder, for recording the physiological function of the upper urinary tract in graph form and reports a large number of experiments on human and dog ureters, showing normal peristalsis, antiperistalsis, spann of the ureter, the amplitude rate, and rhythm of contraction of the ureter and the reac tion of the weter to various types of stimuli. Ex perments have demonstrated four pressure levels at which marked changes in ureteral contraction occur (I) a pressure level between o and 12 cm. of water at which contractions first appear, (2) a pressure level varying from 3 to 18 cm. of water at which contractions are best (3) the crucial level, above which any increase in pressure causes a marked reduction in the amplitude of contractions and (4) a pressure level between 38 and 70 cm. of water, at which the contractions disappear The motor power of the ureter is tested by injec ing from 3 to 10 c.cm. of normal saline solution

into the upper ureter and renal pelvis and recording the ureteral response. This response is designated as very strong, moderate feeble, or absent. The test is of value in determining the presence of mechanical obstruction and the effect on the ureter of toxins and inflammation. It therefore aids in the determination of the indications for transplantation of the ureter. Active peristals to keep up the normal flow of the urine is an important factor in the prevention of ascending infection.

Constantinesco states that the ureter fulfills two distinct functions (1) an excretory function in association with the renal pelvis and calyces, and (2) an automatic function which is not evident in its normal state but comes into play in pathological conditions. In the examination of the ureter before ureterography ureteropyeloscopy should be employed. This is indicated par ticularly in stenosis dilatation, diverticulum, and vesico-ureteral regurgitation, and after suture or nephrectomy From the intensity of the motor reaction conclusions may be drawn with regard to the prognosis. If the spasms are not reflected to the kidney and the cause is removable the prognosis is good. Atony is an indication of a poor prognosis. In cases with spasm or good contractibility of the ureter conservative local treatment which will remove or alleviate the cause is indicated whereas in cases of atomy conservative treatment is indicated only in the early stages Well-established atony with dilatation always necessitates sacrifice of the kidney and ureter

From experiments on dogs carried out to deter mine the effects of extract of the posterior lobe of the printiary gland on the motility of the ureter Gueca concluded that the use of such an extract impedes rather than aids in the expulsion of a calculus from the ureter as peristals stops at the level of the foreign body and begins again below it. He believes that extract of the posterior lobe of the pituitary gland should be employed only with extreme caution.

In atudies of the filling conditions of the ureters in animals after the injection of indigocarmine, Fuchs found that the ureters were filled to a greater extent when the bladder was full than when it was empty Similar findings were made in man by intravenous pyelography For clinical cases of dilatation of the upper unnary tract Fuchs therefore advocates drainage of the blad dier.

Vitale reports experiments on dogs which he carried out to determine the absorptive capacity of the ureters. Bilateral ureterotomy was done and the kidney removed from one side, the ureter being left as a bilind sac with an opening to the

outside. In some of the does the epithelium of the ureter was damaged by the invection of a few cubic centimeters of a per cent sublimate of mer cury. Indisposarmine was injected into the blind neter and name specimens were collected from the other side. It was found that while a preter with normal enithelium possesses a certain canac ity to absorb colored substances, a preter with a damaged coathellum has a greater and more constant power of absorption

Granuloma Hamer Merts and Wishard report a case of granuloms of the preter. The symptoms were not definite and the disprovis was difficult. Because of the great loss of blood and the roenteenological picture of tumor nephrectomy and preferectomy were performed. The diagnoals was made from the specimen. As this case presented bleeding from the other side, the question of bilateral involvement in all cases was raised.

Transplantation Ormand a attention was at tracted to the cecum as a site for transplantation of the uneter because of the death of a nationt within three months after an operation in which it was necessary to implant the preters into the cecum because the sigmoid was involved by a tumor From experiments on four monkeys in which he implanted the night preter into the cecum and later removed the left kidney Or mond concluded that such an operation is a use less procedure as the products normally excreted by the urine are re-absorbed by the decum into the blood stream and cause unemia.

Lexney found that when the preter is transplanted into the skin the postoperative mortality is only one-half as great as that occurring when the transplantation is done into the bowel Renal function is improved and the ease of irrigation aids in the prevention of complications.

I ence-preteral reflux. Scandurra states that verdeo-ureteral reflux has been recognized for many years in experimental and clinical studies. Cystoroentgenography frequently reveals its occurrence in cases in which it is unsuspected. The consenital form is less common than is suggested by statistics. It often manifests itself after infection or traums, and may be associated with malformations such as hypospedies and spine hifida occulta. Frequently absence of changes around the meatus is noted with contraction of the ureter. If the dilatation is pronounced or disproportionate to the are of the patient and other causes are absent, the reflux must be considered congenital. The prognosis is always grave especially when the condition is bilateral.

Accidental reflux may occur in a healthy ureter The main causes of acquired reflux are (1) vestcular contraction. (a) changes of the preteral new tus and (a) meteral atony

Dress showed that, on entering the bladder wall the preter does not lose its identity but re mains a distinct attracture although its mucos is continuous with that of the bladder at the orifice The unster meets the bladder at an angle and passes through the wall, ending as though cut obliquely with a short anterior wall and a longer posterior wall. Its posterior wall continues amaterruntedly with the bladder muches and its superior wall encircles the ornice. The musculsture of the preters is closely connected with that of the vesicular trisone. A true subjecter formal tion as not revealed in all cases

The mechanical factors that impede the refun of fluid into the ureters are (r) the angle of the intraparietal portion of the wreter (a) the vericular musculature and fibers that are interlaced with the posterior preteral wall in its intraparietal arch assuring firm closure of the wreter (1) strata of longitudinal muscle in the intrangrietal portion of the ureter the contraction of which causes closing like that of a valve (a) the neteral orlice (s) the angle of from no to res degrees at which the preter penetrates the wall of the bladder and (6) the ureteral valve, which closes more tightly as the vesicular pressure is increased.

The tunica muscularis of the ureter has three strata, and the ureteral wall is re-enforced by fibers of the detrusor uring Guyon, Courtade and Stoppato were able to induce reflux merely by resecting these fibers. The ureter is a passive conductor of urine and an active organ that car ries renal secretion to the bladder by rhythmic peristaltic contractions. Increased intravencular pressure causes a decrease in the energy of the ureteral contractions. The peristaltic waves are usually greatest in the upper third of the ureter and smallest in the lower third.

In tuberculosis of the kidneys vesico-ureteral reflux can be found at all stages, but is most common when the lemons have produced changes in the ureteral orifices and in the intramural portion of the ureter Under the latter circumstances it is incurable. Vesico-ureteral reflux may occur also in secondary tuberculous cystitis and may be the factor responsible for injection of the other kidney It has been observed with veskular calculi and pyelooephritis, and after traumatic lesions of the ureter Legueu and Papin believed that it might be caused by nervous diseases, with weakness of the ureteral orifices such as occurs in acute myelitis. A case of tabetic origin was cured after twelve months of antiluetic treatment and catheterization. Gayet attributes vescounteral reflux to an inhibition or paralysis of inflamed musculature of the uneteral sphincter. In some cases the cause may be a lesson of the central nervous system and the peripheral nerves. Tandler and Zuckerkandi showed that in prossure hypertrophy grave chronic retention without infection may produce reflux. Vesicular tumors infiltrating the bladder wall may cause reflux by producing lessons which reduce the capacity and muscular contraction of the bladder and destroy or change the detrusor urmae. When the ureter ends in a diverticulum, vesico-ureteral reflux always occurs. During pregnancy the poesibility of infection increases, but the reflux is temporary and ends with parturition.

The symptoms of vesico-ureteral reflux varyoften, the reflux is asymptomate, but usually it is associated with lumbar pain and vesicular symptoms. Cystoscopic examinations are not definitely diagnostic. The most certain diagnostic sid is the cystoroentgenogram. Vesico-ureteral reflux can be demonstrated by filling the bladder with indigocamme solution and then irrigating with clear water. Reflux is present if the blussh discoloration of the urine persists. Experiments have shown that reflux from the bladder into nor mal ureters under the action of general ansesthen a induced with ether or chloroform is impossible. Atony may exist without reflux if the function of

the meatus remains good Mudurition Cloake states that normal micturi tion includes a filling and an emptying phase. In the former, the bladder distends and accommodates itself, the distention progressing until the pressure reaches 18 cm. of water At this pressure there begin rhythmical contractions during which the pressure is raised. Afferent impulses through the micral autonomic (parasympathetic) fibers reach and pass upward through the central nerv our system to the brain where they result in a con scourness of bladder fullness and a desure to micturate. In adults, this desire is under the control of the higher centers, whereas in babies the rise in pressure initiates a parasympathetic reflex which relaxes the internal sphincter and increases the contraction of the detrusor muscle. Volun tary micturition is possible even when no sensa tion of fullness is present. Increased intra abdomnal pressure is not essential. All that is necessary is the proper environmental setting and volution. Under normal conditions, micturation in man after the age of two or three years is voluntary After that age the lower centers never act spontaneously. When the significance of this act is fully realized it may help to an understanding of the vagaries of bladder disorders. Volun

tary cessation of micturation is a willed action effected probably through the external sphincter

Chief among the nervous lesions exerting an influence on micturition are disease and injuries of the spinal cord. In severe injuries, the bladder is paralyzed and retention results with overflow incontinence. The bladder then gradually recovers its tone. After a further period there is reflex relaxation of the sphinicter and reflex urina tron gradually increases.

According to the theory of automaticity of bladder action, a closed internal sphinicer is possible in the absence of nervous control from the spinal cord and there is an intrinsic mechanism which can relax the sphinicer when the bladder is sufficiently distended. The inherent tonus is be lieved to depend upon a parasympathetic reflex. If this theory is correct, the reflex must be entirely outgot the control action of the property of the prope

The same disease involving the same site will vary in its effects upon the bladder functions ac cording to its severity. When the crossed pyramidal tracts are affected in disease of the spinal cord voluntary control over micturition is frequently disordered. The earliest symptoms are defective power of inhibiting reflex micturition. If the sensory ascending paths in the cord are damaged appreciation of bladder fullness is imperfect or absent. Reflex micturition is then likely to occur with brief or no warning and may be wholly unconscious.

When the sacral segments, the site of an important co-ordinating center are diseased, retention of urine commonly results. In some cases micturition is possible but is weak or jerky, of the type associated with the so-called stammering bladder. If the sensory or motor connections be tween the bladder and sacral cord are damaged, the remaining fibers prevent the establishment of automatic bladder function. Although some sensation persusts when only the sympathetic vesuel nerve supply remains, there is no doubt that bladder sensation is conducted mainly by the para sympathetics.

In cases of tumor of the cauda equina which does not involve the comus bladder disturbances are often absent or develop late. When the conus is involved, bladder symptoms appear early or suddenly

Learmonth discusses the sympathetic nerves to the bladder from an anatomical viewpoint. The greatest number of sympathetic fibers reach the bladder through the presacral nerve which is situated in front of the bifurcation of the aorta beneath the peritoneum and has two lateral and one medial root. This nerve may be made up of a

comparatively solid strand or of a loose network. At the level of the first sacral vertebra it divides into the two hypogastric nerves which foin the hypogastric ganglia. Parasympathetic fibers also join these ganglia. The extrinsic nerves to the bladder leave the ganglia in five or six strands which supply not only the bladder but also the ureters, prostate gland, seminal vesicles, and posterior urethra.

With regard to the presence of inhibitory fibers. Learmonth reports that he has been unable to cause definite dilatation of the bladder by faradic stimulation of its sympathetic nerves. The most convincing evidence of the presence of inhibitory fibers has been clinical. He demonstrated the presence of pain fibers at operation by grasping the presectal nerve in a forceps, this procedure producing a "crushing pain in the blad-With regard to the presence of motor fibers to the internal sphincter he states that, in man. faradic stimulation of the presacral nerve produces strong contraction of the sphincter studies made to determine whether there are motor fibers to the muscle at the oreterovesical orifice he found that stimulation of the presectal nerve caused contraction of both ureterovesical onfices to pinpoint size. He attributed this contraction to the response of the trigone. In investigations regarding the presence of motor fibers to the trigonal muscle he found that stimu lation of the presscral nerve caused contraction of the trigonal area of the bladder and that after sympathetic neurectomy the trigone, at least in the male becomes flaccid and atonic.

Learmonth found also that after sympathetic neurectomy on persons with a normally in nervated bladder the internal sphincter is at first dilated, but in the course of two or three weeks recovers sufficient tone to close more or less completely Frequency is not uncommon for a few days, but at the end of that time micturition becomes normal. In the female, division of the pudic nerves causes no disturbance of mic turition and does not prevent conception or nor mal pregnancy or delivery Occasionally the operation is followed immediately by menatruation. In the male, ejaculation does not occur although there is no difficulty in the performance of the sex act and a psychical organia is experienced.

According to Bailey Learmonth proved that the parasympathetic nerves of the bladder arising from the second, third and fourth sacral nerves are the motor or emptying nerves of the bladder The sympathetic nerves which lie in the pre sarral nerve are the antagonists of the perlaympa thetics and hence the "filling" nerves of the blad

der In cases of urlnary retention due to nervous disorders, section of the pressoral perve will over come the antagonism to the motor nerves and allow the contents of the bladder to be expelled. Bailey cites a case in which the operation had good results.

URETHEA

Rupture Haines urges conservative treatment of traumatic rupture of the urethra, especially when the surgeon has not had much experience with such lesions. He believes that end to-end anastomosis is not always necessary as frequently the defect will become repaired spontaneously Pezzar catheters used as suprapuble drains do not drain the bladder adequately 'Haines establishes suprapuble drainage with rectal tubes of size to to 34 F

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ABSTRACTS OF CURRENT LITERATURE

WEAD

Juvara, S. The Technique of Crasil-plasty Reconstruction of the Cernial Wall With Bone Grafts Ont With the flew from the Inner Pour face of the IDMs (Procéd de cranisplastic Reconstitution de la parts transience per des grafts, minera lames ossense découpées à la sés de la contcial lattres du tible.) Re-de che Par 1933 III,

Defects of the cranium may be closed with inert metal (preferably gold) grafts of doad tissue, and grafts of living tissue (heterografts and autografts) Autografts are the most more supposed.

Autografts may be obtained from neighboring areas of the shull, the rike, or the tibin. Grafting from adjacent areas of the skull may be done by means of pedicided osteoperioateal grafts, pedicided outspec-orient grafts, or flars of bone turned back upon the defect. However these procedures are possible only when the defect is usual.

In the use of rib grafts it is best to place the periosteal side down in order to present a smooth surface to the dura. If the defect is too wide for one rib two ribs may be placed side by side.

The best source of grafts is the tibia. The steps in the technique used by the author in the transplants tion of tibial grafts are as follows:

- The edges of the defect are freshened, straight ened, and made to assume some regular geometrical shape.
 The edges are beyeled inward.
- 2 The edges are beveled inward.
 3 The measurements of the defect are marked out on the upper inner surface of the tibia.
- 4. The grait is cut to a depth of from 1 4 to 2 ram. 5 its undersurface is smoothed with a rasp and its edges are bevield. The undersurface is then curved either with a special instrument or by making parallel saw cuts, in order to make it fit the curve of the skull.
- The graft is attached t the edges of the defect by sutures from its overlying periosteum or by su ture holes bored through it.

Relatively large defects of the skull may be closed with tibial grafts. Jone W Errow, M D

EYE

Peter L. C.: The Treatment of Non Paralytic Squint Am J Opick 933 xvi, 48

The treatment of non-paralytic squint should be begun as soon as the dataposis is made. In monocular enotropia there is a defective fusion faculty with high hyperopic refractive errors which are usually unequal in the two eyes. Hereditary influences are a factor in the development of the condition. A per fect cure may be prevented by (1) total absence of the fusion faculty and (3) central ambityopia found in the squaring eye. All types of treatment yield the best results before the age of six. It is disastrous to delay trace-score until the shift for a few longers.

The first and most important step in the trest ment is refraction. Full correction should be prescribed at the earliest possible moment. Throughout the period of treatment and after the condition has been gued the nations should be examined at least once a year A full correction, but not an over correction should be worn. In the cases of children about two years of age the maximum correction obtainshie by glames will be effected within a month. Little improvement can be expected beyond that noted at the end of from four to six weeks. In most instances refraction must be supplemented by other measures. Glames tend to lessen the danger of ambivonia Causes of fallure of glasses alone to lessen the angle of souint are (1) too wide devia tion, (a) the presence, after the aquint becomes tracted interous and in the relaxed and stretched externus together with its cansule and covering conjunctive (1) ambiyonia and (4) poor fusion faculty In anulat of low degree (from 15 to 18 degrees) the visual axes become parallel if central vision is good or can be made mod in the two eves and fusion is not week

Ambiyopis is a phase of monoceniar squist which is as understood and probably more important from the standpoint of cure of the squint than any other symptom. It does not occur in true alternal log squint. In all cases of monocular strabbraus in which central vision in the squinting eye is lowered a small central relative scotoma can be outlined. In children up to five or the years of age the deviation and central scotoma can be transferred from one ye to the other by occlusion of the firing eye. The younger the child the easier it is to transfer the squint and the lowered vision. Ambiyopis rarriy develops after the seventh year. It no effort is made to correct ambiyopis in early childhood the confliction becomes permanent. The methods used to prevent and correct ambiyopis are:

The introduction of stropin into the fixing examt the use of an occlusive bandage. Before the development of smblyogia, a two-hour session with the bandage daily is sufficient. After its development, the use of the bandage for from three to six hour daily is adjustable.

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2 Accommodation at the near point. This should be begun as early as possible.

As probably so per cent of cases come to operation ingely because of inadequate training before the fifth year there are four reasons why surgery should be done

1 Refraction and amblyopic training will yield narimum results in from one to six months.

2 In young children an advancement and recession sutre usually reduce the deviation to an angle which fusion is able to bridge over. In older children and in adults, 35 degrees of squint usually call for a later operation on the fixing eye.

 Strenuous efforts are necessary to prevent amblyopla up to the seventh year so long as squint ensts.

4. Surgical treatment given at an early age brings about single binocular vision before school years been.

Operation may be postponed because of (1) protest of the parents (2) the state of the child's health (3) the hope that the eyes will eventually become straight and (4) the danger that the eyes may become exophoric and eventually exotrophic if the spint is corrected too early by operation. This does not occur if the surgical technique is accurate and featon is trained.

Uncontrolled tenotomies have been replaced by some form of recession suture. However, the major ity of surgeons believe it is better to shorten the weak external rectus because of the danger of weak convergence after a recession operation. The short ening operations are (1) recession (2) advancement (3) tucking and (4) the O Connor cinch operation In squint from 12 to 15 degrees recession is best. Worth's technique is probably most satisfac tory cosmetically In squint of more than 13 degrees advancement is best. Deviations beyond 20 degrees and sometimes deviations even less than that require a supplementary procedure, either double advancement at separate sessions or advancement at one sersion and a receasion auture on the opposing in terans at another session. If two operations are needed and amblyopia is absent or can be corrected double advancements are better than an advancement and recession The value of tucking is debatable. This procedure should be used in phorias and only in squint of low degree (7 or 8 degrees) Squint of 10 or more degrees requires recession. The O'Connor cinch operation compares favorably with advancement and recession as regards results but is followed by slow convalescence and a severe reac tion. In a wide deviation (from 35 to 40 degrees) advancement and recession on the squinting eye should be followed by the necessary supplementary procedures on the fixing eye carried out about two

In most cases even low degrees of deviation should be corrected by tucking by recession, or by a cinch operation because as the child grows older an exophoria of 7 or 8 degrees will probably cause symptoms. There is no rule of linear measure which will yield the same degree of correction in all cases. Hence millimeter measures cannot replace good surjical judgment in operative procedures. Fusion training may be substituted after operative treatment, but the technique is very much simplified. The atteroscope replaces the amblyoscope. It completes the cure and stabilizes single binocular vision if a small degree of aquint persuats, fusion may be aided by prisms.

It is important to know as early as possible whether or not fusion is totally absent or merely defective. Total absence of fusion is found only in true alternating squint and defective fusion in mono-

lateral esotropia

In alternating esotropia careful refraction is necessary. As fusion is totally absent fusion training need not be practiced. Ambit-opia does not occur. The condition can be corrected only by surgery. The operation should be done in the third year of

age Diplopia need never be feared.

Divergent squint is almost always alternating in type. Because of the age at which this type of squint occurs amblyopia is rare Fusion is usually present. The deformity is less conspicuous than in esotropia As a rule surgery is necessary for cure. Refraction is necessary and fusion training desirable. Opera tions on the internus are somewhat difficult. As the tendon is attached close to the limbus manipulations are hindered by the cramped space. Recession of the external rectus is easy but of very little value. The operations used in esotropia are 40 per cent less efficient in divergent squint. Overcorrection need not be feared. The O Connor cinch operation is especially adapted to the internal rectus muscle because of its positive shortening action and its adaptability to the limited operative field. It is the most positive of all shortening operations

LESLIE L McCoy M D

EAR

Rodger T R. Friel A. R. Layton T B Dundas Grant Sir J and Others: A Discussion on the Treatment of Chronic Suppurative Otitis. Proc Rey Soc Med Lond. 1933 xxvi, t107

Ropous stated that of the different methods of non-operative treatment of chronic suppurative otitis he prefers the dry treatment after thorough preliminary cleansing. In the procedure he recom mends the ear is first syringed in order to clean the meatus. The middle ear is then thoroughly irrigated a Hartmann cannula being insinuated into the per foration or against it. When the return flow has be come clear the ear is mopped quite dry While the surreon holds a final mop in readiness to catch the moist bubbles the patient is then made to inflate the ear by Valsalva s method until the escaping air has a dry sound. When the ear has been thus thoroughly cleansed and dried the inner part of the meatus is filled with fine boracic powder blown in with an in sufflator. In some cases it may be necessary first to remove small granulations or polypi In such cases

the prognosis is less favorable. A search should be made also for masal or masonharemenal conditions which might militate against a successful remit and If found, these should be rectified. In onite a fair proportion of cases the ear remains dry after the first treatment. It appears that in such cases inspleased meterful has been lodging behind the lin of the per foration and acting as a foreign body. The nation is instructed to return for a repetition of the treatment whenever the normer becomes moist. It is wise to man him an appointment for two weeks later as there may be moisture without his being aware of it. A laren perforation may fall to beal, but if the ear remales dry for a considerable period. It may be assumed that the supportation is confined to the mid dle ear and any recorrence may be treated with confidence in similar fashion

FRUEL said that the factor which is responsible for persistence of the suppuration and is common to all cases is infection of the annual or secretion by

micro-octanisms

Larrow disagreed with the view that the body wenthod of relieving intraympant pressure is alonghing of a part of the membrane. He stated that this may occur occasionally but as a rule the perforation which occurs spontaneously is very small and there is no sloughny. The enlargement of the perforation is due to ulceration around the edge of the opening. The most lamportant part of the treatment is cleaning of the mesture before the drumbead ruptures in the secure stage. This is also one of the most impor

tant preliminaries to paracentesis.

DUNDAS-GRANT said that in his opinion the differ ence between the posterosmerior (marrinal) and the antero-inferior perforation has not been sufficiently emphasized. The antero-inferior perforation is comparatively benign. It is a manifestation of a condition in which the discharge comes from the upper part of the eustachian tube. Recovery sometimes follows eustachian medication. In a case of extensive perforation in which a radical masteld operation was about to be performed. Dundas-Grant stopped the discharge by injecting a solution of chloride of sinc into the custachian tube. This may be done through a custachian catheter with or without a Weber Liel tube. In a very severe case cited the mucus in the tympanum was so inspire ted that it was almost a foreign body and after it had been removed by syringing and suction it recurred again and again until forcible irrogation with a solution of sodium blearbonate through the eustachian tube became necessary. This can be carried out safely only when the perforation is large.

GUMERT discussed supportative odds media in relation to the army and hospitals for children. He stated that, in the army this condition is one of the most common causes of the rejection of recruits and of the invaliding of soldiers from service. He saw all doubtful ext conditions in recruits in Scottland and did not healist to reject recruits who was suffer ing from chroak suppurative odds and even those who had a fry perforation. While conditionation is due the soldier who has served for some years, provided the ost condition is not a constaint source of trouble, the radical mastoid operation will not need in really fit for army service. With repair to case of supprarative orbits in hospitals for children, Guthrie reviewed the results in 345 traced cases which had bean treated at least two years previously Among the chronic cases there was only 1 with an intracranial complication, that of a boy aged size years who had a cerebral shaces. Of the sentences of the sentences of the previously the cases, intracranial complications occurred in from 3 to 4 per cent. Of the chronic case, fo per cent were five the patients ded (g. from poeumodal and impon probable stills meningles).

Brown urged earlier massful operation in case of chronic supportative offit. He agreed that as a rule the ordinary Schwartze operation is reflected. In selected cases of long-continued supportation be per forms the transmassful attitotympanectomy introduced by Heath thirty years ago and subsequently modified. He regards this as a rational method of inspecting the middle-our contents in every case. It is also a conservative method as the membranous wall of the meatus is kept intact and the other satundant details and heating are preserved as much as

possible.

ADAM said that for many years he has used the galvanic current in the radical operation for cotion of the extending time. He suggested that one cause of the frequency of supporation of the er is nottle-fed infants may be the practice of tuning the infant on its batic. A record kept at his request by Ears showed that of 175 bettle-fed infants in a rowell for the property of the state of the stat

Javous called attention to the importance of explaining the possibilities for cure of suppurative otitis to the lalty James C. Bausweit, M.D.

MODIH

Cade, S.: Radiation Treatment of Cancer of the Month and Pharynz, Laud, 1913, 1717 4.

In the treatment of cancer of the month and pharynx bradiation is not a method opposed to older catablished surgical procedures, but the chief modern treatment. Some of the failures of radium the apy aboud he biamed on the operator rather than on the agent. Until the dishclan can define decays in units of irradiation energy delivered within the temor the term radiosensitivity" can be an expression of only comparative value.

Carchonasta have been classified according for indiscussifiely into y main groups summous called carcinocasta with cell naria, transitional carcinomats without nests, and jumphous crocasta. However, the author concludes from his experience that hissilogically similar tumors present wide differences to their response to irradiation, and that the response is influenced by the condition of the strone, be anatomical situation and lymph and blood supply of the tumor sepsis, and anamia. Therefore the choice of treatment depends upon (z) the site and extent of the disease, (a) the type of the lesion (3) the general condition of the tumor bed, and (4) the emeral condition of the patient.

In early cases of cancer of the anterior portion of the tongue there is little difference between the re salts of local excision and irraduation. Of the cases reviewed by Lane Claypon in 1030 operation was followed by three-year survival in from so to 25 per cent, and radium treatment by three year survival h 118 per cent. In Berven's cases more modern methods increased the incidence of three year sur whal to so I per cent.

Is cancer of the posterior part of the tongue irradiation is the treatment of choice because the lesson cannot be excised without grave risk the degree of malignancy is high, and dissemination occurs early and is widespread. The results from irradiation are

In lexons of the palate, buccal mucosa, and floor of the mouth irraduation can be carried out with comparative case and its results are as good as those of surgery in operable cases and better than those of

targery in inoperable cases.

The anthor reports a case of epithelioms of the boxal mucosa near the angle of the mouth which was treated by 1,200 mgm.-hrs. of irradiation by interstitial irradiation for seven days with 8 needles containing o 6 mgm, of radium element each and a surface application with a wax collar for a period of three days. The patient remained well at the end of

five years.

Also reported is a case of inoperable epithelioma of the right check in which 1,680 mgm. hrs. of irra diation were administered to the buccal mucosa in a period of seven days by means of 10 needles con blining 0.6 mgm, of radium element each and 4 tender containing 1 mgm. of radium element each and immediately thereafter 4 704 mgm. hrs. of irra diation were administered to the cheek in a period of seven days by means of 10 needles containing a mgm. of radium element each and 9 needles containing I mpn. of radium element each. The patient was well two years later

The great difficulty in the treatment of mouth lesions is the prevention of cervical metastases. It is therefore imperative that the cervical region be treated in every case, even if the neck is entirely normal. The routine employed by the author for neck lesions is as follows

L. Il no glands are palpable, surface irradiation is Comboyed

a, it glands are palpable but operable, block disaction is done If removal of the glands is not advisible, open or closed needling is done.

If the glands are inoperable, they are given primary deep therapy followed by needling or sur lace radium breadlation.

In lesions of the oropharynx, irradiation is unques bonably the treatment of choice. Tonsillar tumors are highly malignant, but when adequately irradi ated they disappear in 90 per cent of cases.

The author reports a case of epithelioma of the left tonsil and both pillars which was treated with 16 radon seeds of 1 2 mc. each filtered with 0.5 mm. of platinum. Complete regression of the tumor oc curred, and two months later dissection of the left side of the neck was done. The patient was well at

the end of five years.

Cade reports also a case of extensive epithelioma of the right tonsillar fossa the lateral wall of the pharynx and the tongue which was treated for seven days by interstitial irradiation with 7 needles con taining 1 mgm. of radium element each and acreened with 0.8 mm of platinum 1,076 mgm, hrs. of irradi ation being given. Three weeks later the cervical glands were excised and 3 652 mgm hrs of irradia tion were given by implanting in the wound for seven days 7 needles containing 2 mgm. of radium element each. Six weeks later a full course of deep & ray therapy was given. The patient was well after two years and three months

Lenons of the hypopharynx are very inaccessible to the surgeon. Trotter gains access for needling by performing a lateral transtityroid pharyngotomy. A large group of hypopharyngeal lesions are amenable

only to irradiation treatment

The author reports a case of carcinoma of the lat eral pharyogeal wall with extension to the epiglottis in which a lateral pharyngotomy was done to gain access to the lexion and 15 mgm of radium in 8 nee dies were introduced for seven days, and two months later surface irradiation was given by means of a Columbia paste collar The patient was well at the end of five vests

In carcinoma and sarcoma of the maxillary antrum survical treatment yields only a small percentage of five year cures, whereas irradiation gives gratifying results. In sarcome the use of high voltage X ravs slone is the method of choice. In carcinoma, roent gen-ray treatment must be followed by radium irradiation

In a case of round-celled surcoma treated with a full course of high-voltage X ray irradiation the pa tient was well at the end of two years. In another case of surcoma, a full course of X ray treatment was followed by disappearance of all external deformity but a recurrence developed in six months. The recurrence also responded to treatment, but death resulted from widespread metastases. In a case of spindle-celled sarcoma treated with high voltage X ray irradiation the patient remained well at the end of a year Radium is also of value in these cases. In a fourth case of sarcoms reported by the author, external irradiation was given with a 1-gm. radium unit and 7 needles containing 2 mgm. of radium element each were introduced. This treat ment was followed by improvement, but death oc curred seven months later from intracranial exten

In the surgical approach to the antrum the route of choice is through the palate. This route is of value to provide acress for irradiation with radium, for drainage and to provide a permanent inspection window All of the lesion should be removed with the diathermy loop, special attention being paid to ethmoidal and subenoidal areas. The irradiation is carried out in a stages. In the first stage the lesion is irradiated for twenty four bours with from so to 40 marm, of radium in 10-marm, tubes filtered with 1 mm. of platinum Ten days later a plaster cast of the cavity and a bollow model consisting of a seen rate layers of shellar are constructed and radium in small needles is scaled between the a models. In the second stage of the Irradiation the apparetrs is applied in a halves for convenience, and is soon by the nations ten bours a day or more in periods of two hours until the cavity is covered with a thin fibrinous laver

The author reports a case of endothelloma in which the mass we removed by diathermy 3.450 mgm hrs of irriduation were given over a period of ninety-six boors by the use of 4 tubes containing to mgm of radium each, and t.407 mgm.-hrs. of irridiation were given by the application, for twenty four bours daily for thirteen days, of a shellar plate carrying 4.5 mgm of radium. The total dosage was 5.337 mgm drs. The patient was well at the end of four

years.

In lesions of the pharyns, successful radium ther any is dependent upon favorable access. The author describes an operation of access which permits the insertion of radium needles directly under the lesion.

In a case of squamous-celled cardinoms of the spipiotia reported by Casée, one-third of the full dose of x ny therapy was administered and, after an operation of access, a tole mgm, has of irradiation were given by the Insertion along the side of the pharynx for two days of 18 mgm. of radium in long needles. The patient was well at the end of one year and sixmonths.

In carchoma greater action is often obtained by combining Y av and radium tradiation, chiefy because a greater tissue dosage can be given than by the use of either the \nya yo or radium alone and different wave lengths seem to increase the radiosonshirty to the tumor. This is ordent from the dramatic results obtained in tumors which full to repood to X-ray or radium irradiation shoee. The time relation between the a type of irradiation is to the state of the state of the relation of the state of the state of the state of the state of the state of the continuous of the state of

In the radium treatment of tumors of the maxilla the author favors uniform bradiation with uniform intensity. Hence he prefers radium to radou and uses maximum filtration.

Cade reports a case of carcinoma of the tongue operated upon cight years previously in which a recurrence the size of an orange developed. Irradia thos treatment consisted in the administration of 5,058 mgm. has of irradiation by interstitial irradia ation for nine days with 75 mgm. of radium in 36 medica filtered by c 8 mm. of piathum. The pa tient was well and free from bone pecrosis for one and one-half years. A second recurrence yielded to treat ment for twelve months, but at the end of that time widesnessed nermait took place.

Internitial irradiation most cover a wide area. For surface fraudiation by means of collars radium-akin distance is 15 mm, and from 40 to 60 mgm, of radium-are employed for from two to three weeks. However the author irradiated from four teen to eighteen hours daily with alternate periods of rest and increased the acreemage by applying copper brass, or since halfway between the radium and the cities.

Massirradiation is the greatest advance in the radi um therapse of lesions of the mouth and pharens. It requires large quantities of radium. A reasonable distance from the skin is necessary to prevent burns and at the same time to seems an efficient death dose. At least a em. of radium should be used a or 6 em, or more are preferable. In the calculation of the domage the Sievert unit is employed. This is defined as the unit of samma ray intensity found at a distance of 1 cm. from a radium preparation containing r am of radium element filtered in all directions through o. 5 mm. of platinum and considered to be a point source. The text may be in error as Severt's unit is a mem at a cm. This unit of intensity used for one hour is known as the Grimmet unit of douget. ABSTRACTOR

In the treatment of lesions of the tonsil latteral pharyngeal wall, and pyriform fosses, from 3 to 8 portain of entry are employed according to the creat and position of the lesion. The bomb is used with a skin distance of 3 cm. Six applications of one hour each are required to produce an erybean with dry peeling, and seven bowns to produce a selective molecular state. Thus, with the e-gm. born into a finish the second of the lesions of the lesions of the lesions of the lesions by this technique but at times there have been severe reactions on account of the shots control of the lesions.

from aktieen to eighteen days.

In a case of carcinoms of the pyriform foest treated with deep X ray therapy there was complete disappearance of the lesion for two and one-half years. When a recurrence developed in the lateral will of the pharpyar, an operation of access was done and 1,356 mgm.-har. of irradiation were given over a period of three days with it begins of the legislation. Heating resulted, but the lesion extended forward the presidents. The raym, bomb was then the principal of the properties. The raym bomb was then complete forward the principal of the properties of the principal

In a case of carcinoma of the left pyriform formdeep \ ray irradiation was followed by improvment, but later active discuss developed in the epglottis. The latter was treated with 3,670 Orlunard units administered with the s-gm, unit with a

radium-skin distance of 3 cm. and 8 portals of entry The irraduction was given for two hours daily for a total of thirteen hours on the left side and a total of dr hours on the right side. The lexion healed com

pletely

The author reports also a case of epitheliomatous aker of the left pyriform fossa involving the lateral surface of the episiottis and the cervical glands. Following preliminary \ ray treatment in this case 1 160 Grimmet units were given by irradiation for twenty two hours spread over three weeks with the use of the s-gm. unit, a skin distance of 3 cm , and s portals of entry The lesson healed.

In a case of papillary carcinoma of the tonsil 2,520 Grimmet units of irradiation were given with the a-gm. unit through a portals of entry a total of eighteen hours of irradiation being administered in a period of fifteen days. Complete healing resulted.

In a case of hypopharyngeal squamous-celled car droms which had fungated through the skin formed a fixtula on the right side of the neck, and completely obstructed the pharynx, pharyngotomy was per formed and a total of 4,318 Grimmet units of irradia tion were given with extreme care through 4 portals of entry on the right side of the neck. The radium skin distance was 3 cm. The lesson healed, the fistula closed, the swelling subsided and the patient gained 25 lbs.

If mass irradiation is to be increased in efficiency a pester radium-akin distance must be employed. This necessitates large amounts of radium. Berven is quoted as stating that the treatment of carcinoma of the tonsil by means of the old method resulted in no three year survivals, whereas treatment by the new method is followed by survival in 28 6 per cent of cases representing all stages. In lympho-epithe boma, mass braduation is followed by survival in 75 per cent of cases.

The author reviews the results of irradiation in 337 cases representing all stages with and without metastases. Thirty-three and one-half per cent of the pa tents are alive from one to seven years after the treatment. Of those treated for a tongue lealon, thirty three per cent are alive. The incidence of fire year survival was 18 7 per cent, and the incidence of seven-year survival 11 per cent. In cases of carcinoma of the pyriform fossa there were no sur

The author draws the following conclusions

t Total dnappearance of primary and glandular lerious may be achieved by irradiation.

2 The disappearance of either may be permanent or temporary but its duration is quite impossible to prodet.

3. In operable cases, irradiation has reached a status of equality with surgical excision. In inoper able cases it is the only method

Irradiation is a purely local remedy

In hopeless cases, pallistion by radium and ray irradiation is certainly worth while.

6 A most powerful and promising weapon is the "mass irradiation unit."

What we have yet to learn about irradiation is infinitely greater than the little we know

The article contains photographs, diagrams col ored plates and tables. A. JAMES LARKIN M D

MECK

Marri P: The Importance of Enterococci in the Genesis of Suppurative Adenitis of the Neck. A Clinicobacteriological Study (Importanza degli enterococchi nella genesi degli adeno-flemmoni del collo. Studio clinico-bacteriologico) Policia Rome, 1933 xl, sex. chlr 320

The author reports sixteen cases of phleomon of the neck. In nine, the phlegmon was in the sub-maxillary area, and in seven in the carotid area. In three cases cultures yielded the hemolytic staphy lococcus pyogenes aureus which was virulent in the rabbit. In the rest, a pure culture of organisms be longing to the group of enterococci was obtained.

Lesions of the type described are inflammatory and secondary to infectious processes draining into the lymphatics of the upper part of the neck. Any of the bacteria usually found in the mouth or phervnx may cause them, but the author believes that en terococci are most often responsible. Bacteriological diagnosis is of great importance in cases in which specific serum therapy or vaccine therapy is indicated. The course of the lesion depends upon the virulence of the causative organism. When the phelemon is due to bacteria of low virulence cure is brought about promptly by surgical drainage of the suppurating node. EUGENE T LEDDY M.D.

Irradiation Treatment of Basedow a Lüdin M Disease (Zur Strahlentherapie der Basedow'schen Krankhelt) Acto radiol, 1913 riv 28

The results of irradiation treatment in Basedow's disease are disputed chiefly by surgeons. statistics on which objections to irradiation treat ment are based are scarcely applicable as they have been collected carelessly the necessary criteria for comparison have not been definitely established and there is a good deal of uncertainty as to what shall be regarded as a cure.

The chief dangers ascribed to irradiation treat ment of Rasedow's disease are capsular adhenous. necrosis of the larynx and myxcedems. Adhesions do not occur in many cases and are no longer unani mously considered disadvantageous in the event of the necessity for subsequent operation. Necrosis of the larynx and myxædema occurred in the early days when more intensive dosages were employed but today are not to be feared. The undisputed ad vantage, in some cases, of the brevity of the period of treatment by surgical methods is frequently nullified by the tendency of many surgeons to give prehminary treatment for a period of weeks or months before the operation. The chief disadvan tages of irradiation are the greater frequency of recurrence, which is due to the fact that in this treat ment the gland tissue which may tend to recur is not

removed, and the inability of the roentgenologist thus far to demonstrate any characteristic or constant changes in the histological picture of struma ascribable to his method.

With regard to the mortality the author are that all criteria should be equally applicable to both methods. Deaths following irradiation treatment in the cases of patients considered too poor risks for operation occur in spite of rather than because of the irradiation.

Jone W Bennous M.D.

Biumgart H. L., Riseman, J. E. P., Davis, D., and Berlin, D. D. 176 Thersprotte, Effect of Total Abhation of Normal Thyroid on Congestive Heart Fallure and Angion Pectors. Ill Early Results in Various Types of Cardiovascular Disuses and Coincident Pathological Stricte With out Clinical or Pathological Evidence of Thyriod Toxicity Arts, H. M. 19, 18, 18, 16, 17

Normally the velocity of the blood flow is directly proportional to the metabolic demands of the body and the latter can be accurately determined from the basis metabolic rate. In patients with congrative heart disease the blood velocity is low in spite of the fact that the basis metabolic rate is normal. This disproportion between the rate of flow required by a cardiac with a normal basis metabolism and the slow rate actually present was found to be the index of cardiac decompensation. The authors postulated that if in such an individual than metabolic demands of the body could be decreased, the blood velocity although slow might be adequate to prevent the manifestations of decompen-

Accordingly ten patients suffering from congestive heart failure and angina pectoris, who had a poor prognosis as expensed file but were alto aurical poor prognosis as the prognosis of the surgical gland. Previously it had been determined by the authors and others that substant introductions was of little or no value. As these patients had suffered for many years and had become prognessively worse in spite of medical treatment, they submitted to the coversition willingly.

The outstanding results from three to six months after the operation may be summarized as follows

1 The attacks of angina pectors which were ex-

perienced by two of the patients before operation have not recurred.

2 All patients have above marked improvement and have been able to undertake from slight to considerable exertion without the development of palpitation, dynamica or signs of congestive heart failure.

1 The basal metabolic rate of each patient has shown a significant and persistent decrease which has paralleled the most striking improvement.

i In seven patients the relocity of the blood flow has become even slower a change indicating that under the new postoperative conditions the heart is required to do less work than it was able to accomplish when the metabolic rate was normal. Frequently recurring harmoptysis and pain in the chest have crused since the operation.

6. Evidences of mild myzordems have developed. The authors emphasize that because of the uncertainty as to the duration of the beneficial results, the operation should be undertaken only in cases with congreative failure or angion pectoris in which has operative this is fair and modical procedures have failed to give the defined results. Fatherts with secretary the second of

There was one operative death in the eleven cuer reviewed and one in a previous series of five cases. Two patients developed evidences of mild para thyroid tetany but this has been controlled by decreasing amounts of calcium chloride and visaterol.

ARREY S. W Tomorr M.D.

Mandl, F: The Technique of Parathyroidectomy in Ostelda Fibroan on the Basis of Recent Observations (Zur Technik der Parathyroidektosisbei Ostilis fibroan auf Grund seuer Beobachtungen) Dentsich Elitch f (Ed. 1931 Col.) 50:

The author believes that he was the first to cure our Recklinghauen a disease by removing a para thyroid tumor. Removal of the tumor was followed by a decrease in the calcium content of the blood and urine. Erdielm's theory that removal of the para thyroids is followed by bone changes was therefore confirmed.

Mandl has operated upon fifty-five cases of vos Recklinghaune's disease. The indications for operation have been extended. In various diseases he which no parathyroid tumor could be found, Barr and Bulger have removed even normal parathyroids with successful results. Ballin, Lerkie, and Jung have treated a series of cases of spondyfitis by removal of parathyroid bodies. Livers and Leif designate bone diseases associated with hyperculcemia by the general term "parathyroid outcout" and classify them separately from bone diseases associated with hypocalcemia. In Dupuytern's contracture and myotonic dystrophia with cataract, Lerkie, Jungand Brunachwig see substitution therapy In scienderms. Leriche and Jung remove the parathyroid bodies when hyperculcemia is present.

Mandi reports a case of you Rechillegiassees; a statist is flower generalisate in which teachers break the statistic of the s

Attention is called to the fact that because of the sarted drop in the blood calcium, prophylactic traitment such as the administration of aphenil and partitionnose was necessary even before the tetany developed. The psychic manifestations were related to the tetany. The position of the parethyroid tumor was stypical. The author believes that in many uses of suspected parathyroid tumor in which no tumor is found at operation the failure to find the tumor may be due to an unusual position of the scools in.

Of 55 cases of ostellis fibrosa reported in the litera tree, the parathyrolds were enlarged in fort; three, it operation, the tumor was found most often at the site of the left inferior parathyroid. This localization does not agree with the findings at autopsy

After operation parathormone, paratotal aphenil or calcium should be given for three weeks regardless of the calcium determinations. In fifty five cases

cited, living parathyroid tissue in addition to the parathyroid tumor was demonstrated with certainty Without doubt, in some of the cases in which the operation was followed by death too much parathyroid tissue was removed. We now know definitely that cases of cateitis fibrosa generalisata which are not operated upon are fatal. Operation is therefore essential.

The diagnosis of the disease and particularly its pre-operative differentiation from bone carcinoma, rickets, localized ostetis fibrosa, other forms of cateoporosis and multiple myeloma, remains difficult. Determinations of the calcium content of the blood and urine must be made as operation is successful only when the calcium is increased Before removal of the parathyroid tumous the presence of normal parathyroid tissue must be established. The operation must be followed by calcium or para thyroid substitution therapy. Loxus (2)

SURGERY OF THE NERVOUS SYSTEM

BRAIN AND ITS COVERINGS CRANIAL NERVES

Riggs, H. W : The Dangers and the Mortality of Ventriculography Bull λ excelegical Inti. Ven York, 1933 III, α.

At the Neurological Institute of New York there were 12 desthis in a series of Laß ventriculographies for suspected intracranial neoplasm. The investigation between the reported was undertaken to establish more exact indications for the procedure to find the best methods of treating serious symptoms, and to kitniffly the types of cases in which ventriculog

raphy is likely to be dangerous.

On the basis of the symptoms which followed the

direct introduction of air into the ventricles the cases are divided into 3 groups (1) those with mild or no symptoms referable to the procedure (a) those with dangerous symptoms in which recovery resulted and (3) those which were fatal. Nearly all of the patients complained of nauses, vomiting and headaches, and showed some rise in the temperature The dangerous symptom was stuper with or without changes in the respiration, pulse blood pressure, and temperature. Patients with stupor before the introduction of the air and showing no change after its introduction were classed as having no symptoms referable to the ventriculographic examination. In the 12 fatal cases the main symptom was progressive stupor with a terminal rise in the temperature to 107 or 108 degrees F. One patient developed tonic spasms with a generalized tremor one presented localized muscular twitchings and other phenomena due to irritation and 3 developed acute remiratory failure after the onset of the stupor. In some cases the stuper began suddenly and was of short duration, while in others it was gradually progressive. The time of its onset varied from immediately to three days after the operation. Dangerous symptoms developed within ten bours in two-thirds of the patients who recovered and within eight bours in two-thirds of those who died.

Most of the fatalities occurred in cases with advanced symptoms and signs of intracranial tumor Dangerous symptoms developed particularly often in cases of subcortical growths producing pressure on the ventricle and the brain stem. These symptoms were little affected by caffein and hypertonic glucous solution given intraversomaly but were frequently relieved by puncture of the ventricle and relieved of the air. They were dose chiefly to a material of the air. They were dose chiefly to a material of the control

In conclusion the author says that ventriculor-

raphy is an indispensable diagnostic aid, but abould be used only in cause in which localization is very difficult or impossible by clinical mean alone. It is particularly dangerous when a supratemental growth is causing pressure on the third ventricle or the brain stem. E. S. Prart M.D.

Masson, C. B.: The Disturbances in Vision and in Visual Fields After Ventriculography Bull. Terrological Inst. New York, 1933 ld, 190.

After the occurrence of temporary blindness in a case in which ventriculegraphy was done at the Neurological Institute of New York, a study was made of the visual fields in a series of too consecutive cases to learn how frequently a change is the field occurred following the intraventricular injection of air and the causes of such changes. In a review of the literature no reference to visual disturtances following ventriculography and encophalography could be found, but it is generally agreed that in the presence of papillordems from increased intracranial pressure the air should be introduced into the ventricles in order to allow its immediate removal after the roentreporgrams have been made-

In a series of 500 cases in which encephalography was done there was no instance of temporary blind ness although meningeal irritation and transient photophobia were observed. (After this article was written a case of blindness was seen.) Of a series of 100 consecutive cases in which ventriculography.

was done, temporary blindness occurred in 6. These 6 cases are reported in detail.

The method of introducing the air seemed to have no relation to the occurrence of blindness. Three patients who became temporarily blind had normal fundi, and a a papillordema of from a to a diopters. The pressure in the ventricles ranged from 160 to 220 mm. Before the ventriculographic examination, r patient had marked reduction of visual aculty but the 5 others had normal or nearly pormal vision. Two patients had marked field defects before the examination. In a patients the visual disturbances began during the manipulations incident to the procedure, but in the cases of the 4 others the time interval before the beginning of fallare of vision was two, three, four and sixteen hours respectively. In all of the patients vision was regained in from twenty one to seventy-two hours. In a cases the light reflex was retained during the period of blindness, while in 1 case the pupils were widely dilated and did not react to light even during the time that some vision remained. All of the patients regaloed the visual aculty which they possessed before the ventriculographic examination, and z of them had greater visual aculty after operation than they had when they were admitted to the bospital.

Three possible causes for the temporary loss of vision are discussed (1) the nature and situation of the lesion and the changes in the fundi and vision enting before the ventriculographic examination (2) the introduction of air and (3) the traums due to the puncture of the brain. No satisfactory explanation has been discovered, but the first 2 possibilities seem to be ruled out. It seems most probable that the trauma incident to the puncture of the brain was responsible but the mechanism of production of the temporary blindness is not professional. E. S PLATT M D

Beymann, E. Surgical Interference in Gerebral Gliomata (Veber chirurgische Eingriffe bei Gross hiragilomen) Zentrelbi f Chir., 1933 p 786

The author discusses gliomata of the cerebrum on the basis of the large experience he has gained from 500 sperations on the brain. His classification of these tumors is based on external characteristics chiefly the location of the neoplasm as is also the chaincation which Schwartz suggested following a consideration of the embryological facts Gliomata of the cerebellum are not included in this classifica tion. The operative prognosis of gliomats of the cerebellum is considerably better than that of cerebral gliomata. The author cites the cases of 2 pa tients operated upon for cerebellar tumor who have remained well for twenty two and twelve years respectively

in his first group Heymann includes the gliomata of senescence which have a poor prognosis as they came sudden terminal crises without warning In cases of tumor of this type all treatment is in vain even decompressive trephination Particularly tu more which originate from a circumscribed focus in the region of the ventricle produce a rapidly apread

ing orderna of the brain.

The author next discusses the polar gliomata of which the frontal-pole gliomata have the best prog bosis. Unilateral growths have, of course a more favorable prognosis than bilateral growths, but even the latter may be resected successfully Gliomata on the temporal and occipital poles have a far less favor able prognosts because they are composed of less differentiated glial elements, originate in the depths and frequently manifest their presence first by se vere terminal convulsions with redema of the brain. The author believes that the temporal-pole gliomata have a particularly poor prognosis. However tem poral pole gliomata involving the gyrus temporalis medius and restricted essentially to that convolution are an exception as they may be resected easily and without a reaction. In cases of tumor of this type the operative prognosis is good but recurrence is rapid and usually causes death. The occipital pole slibmata are easily accessible but extremely malig must. The most rapid recurrences seen by the au ther were those of tumors of this type.

Heymann's third group are the gyrus gliomata which are limited to a single convolution. This From also tend to recur

Growths located on the margin of the great nuclei particularly about the optic thalamus, in the lamina terminalis of the infundibulum are not suitable for surgery

SPINAL CORD AND ITS COVERINGS

Eleberg C. A.: Concerning the Clinical Features and the Diagnosis of Extramedullary Menin deal and Perineural Fibroblastomata of the Spinal Cord Bull Acurological Inst Acm Lork 1033 III, 124

Meningeal fibroblastomata are mesodermal growths which reproduce the structure of pecchionian granulations to a varying degree. The gross appearance of the growths is characteristic. The tumors are usually round and well encapsulated and have no tendency to invade the tusues of the central nervous system. The vascularity of the sur rounding soft tissues and of the bone is generally in creased. Histological examination shows that the cells tend to form whorls and often contain islands of calcification (psammoma bodies) The term meningioma suggested for these tumors by Cush ing has been widely adopted. This term is clinically useful but suggests that the growths are derived from the meninges. While some of the neoplasms have the gross appearance of a meningioma their cells are not arranged in the typical manner and only in some areas to they lay down fibrogius fibrils and collagen. Sometimes also a considerable number of cells undergoing mitatic division are seen. These variations have given rise to differences of opinion regarding the proper nomenclature and classifica tion of both the intracranial and the spinal growths.

plete removal of the tumors by the surgeon. Meningeal fibroblastomata occurring in the verte hral canal are much smaller than the cranial variety and are attached to the inner surface of the dura They usually lie underneath the arachnoid but in rare instances are found outside the dura. They occur more frequently in females than in males and are most common after the fortieth year of life and in the thoracic part of the vertebral column. Their occurrence in the lumber region is rare. The patients are usually first seen by the surgeon from one to two years after the onset of the disturbances. Whatever the site of the growth, the symptoms begin relatively often with motor or sensory disturbances in the lower extremities. As a rule the globulin and total protein of the spinal fluid are increased only slightly

The author believes that the apparent tendency of

the more malignant meningeni fibroblastomata to

recur with great frequency is probably due to incom-

The perineural fibroblastomata occur with equal frequency in males and in females and are as com mon before an after the fortieth year of age. They are found as often in the cervical and lumbar regions as in the thoracic region. Root pains occur more often and the increase in the globulin and protein content of the spinal fluid below the neoplasm is higher than in cases of meningeal fibroblastomata.

As extramedullary membreal and extramedullary perineural filmobilationata have characteristic syndromes a correct pre-operative dragnosis of the pathological nature of the neoplasm is often possible. As in case of tumor of the brist, the clinician should attempt to diagnose the histological nature of the growth as well as its sixtuation.

ANTHONY F SAVA, MLD

PERIPHERAL MERVES

Babelin, L.; The Time of Restoration of Functional and Working Capacity After the Saturing of Nerves of the Upper Extremities (Urber den Zeitpunkt einer Wiederherstellung der Funktionund Arbeitigshightet nach der herveranakt au den oberen Extremitaeten) New chir Arch 932 Extil, 1902.

This article is based on 138 cases of suture of nerves of the upper extremities, 53 of which were followed up for a long time.

The regeneration of nerven depends upon several factors. Most important are the anatomocopathogacil peculiarities of the highest nerve, the level and degree of its injury the method of primary treatment, and the time that elsaped between the

injury and the operation.

Simple motor perves, such as the radial nerve, and simple sensory nerves, such as the cutaneous anterior brachial branch of the median and sanhenous nerves, show a better power of regeneration than mixed, complicated nerve stems. Among the latter the ulnar and the sciatic nerves have the poorest nower of regeneration. Insuries of proximal nerves heal more rapidly than those of distal nerves. Regeneration takes place more quickly after partial division than after complete division of the nerve stem. Various wound complications, especially suppurations, affect regeneration very unfavorably The earlier surgical treatment (nerve surure) is undertaken, the more quickly are favorable results obtained Primary suture therefore appears to be best. If primary suture is impossible, suturing should be undertaken from two to three months after bealing of the wound

After seture of the injured serve atem the pain until y cases immediately but occasionally it persists for a few weeks. This is true also of vasometer and trophic disturbances with the exception of anhydrosis and bomification or atrophy of the poliments, which sometimes persist for many years. From three to six weeks after the operation the first signs of restoration of sensibility appear in the deep tissues. These consist of sensibility appear in the deep tissues. These consist of sensibility in americal to the construction of the sensibility of the persistence of the construction of the construction of the construction of the construction of the construction of the sensibility occurs pradually. Thereafter the signs of repensation on the part of the motor sphere.

appear Simultaneously with the restoration of motor function, about four months after the sature of the nerve, described entitability of the nerves and muscles to the fursatic current is restored and, finally, from twelve to fourteen months after the operation, distinct sensibility to touch and best returns.

6. Autom CD.

SYMPATHETIC NERVES

Woollard, H. H., and Norrish, R. E.: The Anstomy of the Peripheral Sympathetic Nervous System. Brit. J. Surg. 1911, 2rd, 84.

Evidence of a general nature has been presented indicating that the sympathetic nervous system is laid down in a way suggesting a particular conformation and a precise anatomy for each region of the body

the poo

From the surgical point of view the sympathetic innervation of any particular region can be deter mined by macroscopic dissection. Innervating fibers that cannot be determined by this method are of no surposal importance.

Groups of structures with a certain anatomical bomogeneity have a common source of supply of sympathetic fibers, and these fibers have a uniform

sympathetic fibers, and these fibers have a uniform way of reaching their final distribution. The most constant and valuable result that can be achieved with certainty by surgery of the peripheral

sympathetic nervous system is an increase in the blood supply of the denervated member

In the case of the head, neck, and upper extremity

interruption of sympathetic innervation is best achieved by removing the sympathetic chain from the level of the second rib upward as far as the lateral angle between the vertebral and subclavian artirles.

Sympathetic denoration of the large get within the distribution of the inferior measurier artery can be achieved by attripting the adventitis which from the sorts, beginning above the ordin of the vessel, guing distal to its origin, and continuing or the vessel itself as far as possible, that is, as far as its first branches. It is desirable also to remove the hypogastric plears.

In the case of the pelvic viscers, including the ureter sympathetic denervation can be accomplished

by removing the hypogastric plexus.

For the lower extremity sympathetic denervations can be done most conveniently by removing the third and fourth lumber ganglia and the intervening chain.

H. Easiz Committ, M.D.

Gask, G. E.: The Surgery of the Sympathetic Nervous System. Bril J Surg 933 xxl, 113.

The author reviews the anatomy of the symmaticlic nervous system and reports seven case of Raymud's disease in which a portion of the theratist emportance of removing the second dorsal ganglion up to and including, the stellar ganglion, as sympathetic fibers leaving the second dorsal sympathetic pragition may communicate with the first dorsal spinel nerve and if this communication is not interrupted sympathetic impulses may escape from the spinal cord and the beneficial results of the opera tion may be diminished. He advocates an anterior approach from the root of the neck. In the opera tion he performs a 3 in. collar incision is made parallel to, and 1/2 in, above, the clavicle. The dissection is then carried down until the scalenus antions is exposed. The muscle is divided transvenely about 1/2 in. above its insertion into the scalenus tubercle of the first rib The subclavian artery is retracted downward and toward the midline. The dome of the pleura, together with the fixed covering it, is pushed downward until the sides of the body of the first and second dorsal vertebre are exposed. The sympathetic chain is then visualized and a segment removed. The bihteral approach may be carried out at the same operation.

In conclusion Gask reports three cases of mega colon in which good results were obtained by removal of the hypogastric sympathetics,

ROBERT ZOLLINGER, M.D.

Rieder W: Resection of the Rami Communicantes Supplying the Hand (Resektion der zur Hand gehenden Rami communicantes)

Chirarg 1933, v 219.

Rieder describes the sympathetic innervation of the upper extremity on the bests of his own investigation and shows the sympathetic fibers supplying the hand by means of a schematic drawing. He then describes two operative procedures which he devised to exclude the sympathetic fibers leading to the hand.

The operation may be performed through an in chion in the neck or through a paravertebral incision All of the rami communicantes from the seventh tervical to the third thoracic must be severed If the operation is performed through the neck the cervical lacision is made parallel with the inner edge of the stemocleidomastoid muscle from the level of the hyoid bone to at least 11/2 fingerbreadths below the stemoclavicular joint. Skin, platysma, fascle of the neck, and omohyoid muscle are severed. Directly behind the origin of the vertebral artery from the subclavian artery in front of the head of the first rib and therefore in the angle between the eighth cervical and the first thoracic nerve, is the inferior cervical panglion. When this is found, the sympathetic root s followed downward to find the first and second thoracic ganglia. To accomplish this it is necessary to losen the dome of the pleura by sectioning the pleurovertebral, pleurocostal, and pleurotracheal

ligaments by which the dome of the pleurs is held tense.

After the field has been properly exposed the rami communicantes from the lower cervical and first thoracic ganglia are resected. The rami communi cantes grisel arising from them are recognized from their course. If it is impossible to reach the second thoracic ganglion from above, the operation is concluded and the result awaited. If new disturbances arise it is necessary to resect the second and third thoracic ganglia through a paravertebral incision As the lower cervical ganglion can also be reached easily through a paravertebral incision, resection of the lower cervical as well as the first and second thoracic ganglia can be done through a paravertebral incision at one time. This is perhaps a more formi dable operation but especially in severe cases is more effective. Therefore today the author usually resects these fibers through a paravertebral incision.

The patient lies on the side opposite the side to be operated upon. The arm on the side to be operated upon is drawn forward and downward to obtain greater space between the spine and the scapula. The skin incision is made two fingerbreadths from the end of the spinous process. It is begun at the level of the fourth cervical vertebra and carried down to the level of the fifth thoracic vertebra. The muscles are separated longitudinally down to the ribs and retracted laterally The ends of the fourth third second, and first ribs are then resected for a distance of 3 or 4 cm including the head of the rib and the transverse processes in the same region are removed with a bone forceps. In this way the lateral wall of the vertebræ is exposed. Hæmorrhage from the spine is checked with wax. Intercostal nerves and vessels can usually be protected from injury

The sympathetic cord is usually situated between pleura and intercostal nerves somewhat medially from the head of the rib The ganglia are surrounded by a fine connective tissue covering and a little fat and give off two or three short rami communicantes to the corresponding intercostal nerves. If the inter costal nerves are followed medially and the pleura is carefully pushed laterally the sympathetic nerve will be seen running between them. If this nerve is difficult to find it is best to search for the rami com municantes leaving the intercostal nerve and follow them to the ganglion. When the ganglia are readily visible, they are drawn forward with a hook and the rami communicantes which are given off are severed or the ganglia are extirpated. The rami communi cantes from the lowest cervical ganglion are severed last after this ganglion has been identified. The operation is shown by two drawings. RIEDER (Z)

SURGERY OF THE CHEST

TRACERA LINGS, AND PLEURA

Jacobana, H. C.: A Brief Review of Cantestration of Adhesions in the Preumotherax Treatment of Pulmonary Tuberculouis (Kurze Uebrsicht neher die Strenedurchbrennung bei Preumothoraxbehandlung der Lungentuberkulese) Nach mal Titistr., 1011 D 338.

The first cauted ration of adhesions was performed

in the Sawala Santrarium in the fall of yore. Only after tost did the method become better known. Today there are more than too publications on the subject.

The possibilities of adhesion cauterization on the hasis of the roenteen findings are very easily over estimated. The adherious are more numerous and. in general, larger than they appear in the roent genogram, and as their entire extent in the pleural dome cannot be shown to the roenteenogram operability cannot be determined from the roenteen findings alone. Adhedone in the lateral regions cause the least difficulty in the roentgen examination and at operation. Thoracoscopy shows the adhesions best

and is at the same time a part of the operation.

Surface adhesions are the most difficult to sepa rate. The separation should be done as close to the parietal pleura as possible in order to prevent tear ing of the lang tiespe. In general, strand-like and membranous adhesions offer no difficulties. Tearing of the hung is the most frequent complication. If tuberculous foci are opened thereby an infection of the pleurs occurs and is followed by an exudative plentisy which mins the usual course. The symptoms gradually disappear and the end result is not af fected. The most serious complication is the opening of a cavity. The result is an emoveme with a mixed infection and a very unfavorable prognosis.

In one of the tables included in the article the incidence of a serous exudate following the cauteriza tion of adhesions ranges from a t to 100 per cent. The explanation is simple Especially in finorescopy a light shadow is frequently seen in the contonbrenic angle a day or two after the operation. In half of the cases the emdate producing this shadow disappears after one or two weeks without having affected the patient in any way This temporary exudate is to be regarded only as a thermic picurisy and therefore as a consequence of the cauterization procedure. The serious results of perforation of cavities during the cauterisation of adhesions usually appear a few days after operation. However cases have been observed in which the perforation did not occur until from fifteen to thirty days after the operation. There are also intermediate forms in which tuberculous empyema develops without any mixed infection and without any demonstrable perforation.

The anthor refers to the monographs of Diebls and Kremer and to the publications and statistics of Destace (7) Unverricht and Maurer

Rischel, A.: The Operative Treatment of Tuberrulosis of the Lunes (Ueber die operative Behandhang der Lungentuberkulose). Ausel med Tilliter 1011. D. 117

Partial thoracoplasty on the upper lobes is based on a purely mechanical theory, a direct change in the static conditions with the closure of cavities being assumed. Such a thoraconlastic operation which should be called "relaxation therapy " has at first no beneficial influence upon the immunobiological conditions of the body on the contrary an unfavorable influence on these conditions, even if only temporary from the destruction of those is to be seemed. To this may be due also postoperative symptoms such as increased activity of the process, activation of hitherto colescent processes in the other lung, and agreemention of already existing complications such as extrapulmonary tuberculosis and affections of the brynx. The operation should be followed by treat ment in a sanatorium as rest is of great importance in the enontaneous closure of cavities.

A thoracoplastic operation is indicated when spontaneous healing cannot be expected when pneumothorax has been unsuccessful on account of adhesions or an unfavorable position of the cavities and when phrenico-exercis has falled to bring about closure of the cavities. Apicolysis with paraffin tampomade should be done only when recessiry Thoracoplasty is contra-indicated by active proc cases in the other lung and by marked exudative processes in the lung under treatment. It is to be considered chiefly for chronic fibrosing and produc tive cavernous processes with the tendency toward retraction necessary for the closure of cavities. Other indications and contra indications are cited-

The author performs thoracoplasty under a combined infiltration and nerve-block angesthesis with superficial ether anesthesia. The various steps in the resection of the ribs are described briefly Among the intra-operative complications are symptoms of collapse, stopping of the respiration, nerve injuries, and accidental pneumotherax. Postoperative complications include heart failure bronchopmeumonia from the aspiration of accretions, cromous poeumonia, pulmonary ordema, embolism plentisy and temporary emphysems.

Of 196 patients subjected to thoracoplasty 49 Per cent were found to be still entirely or partly able to follow an occupation from one year and two months to fourteen years and eight months after the operation. In cases in which freedom from bacteria cannot be achieved, a supplementary operation, preferably an apleolysis with paraffin tamponade, should be performed. HAAGEN (Z)

lickt, J. Locally Limited Selective Thoracoplasty in Pulmonary Tuberculosis (Ueber certiich bepearte "selective Thorakoplastik bei Lungentuberkulose) hank Mag f Lageridensk 1933 zity 56:

Eighteen partial apical and upper lobe plastic operations in cases of localized tuberculosis are reported. The operations were carried out according to two different methods

I. In eight operations (seven patients one with idiated tuberculosis) resection of the fourth fifth and sixth upper ribs and pneumolysis of a consider the portion of the upper lobe were done. The chest will mims the ribs was transformed into a broad-peficid periosteum-muscle flap which was spread on over the aper of the sunken in lung freed of ad besons. Over this soft tissue flap a tampon was pieced. The result was complete healing of the cavit is in seven cases and diminution of the cavity in one case. In one case an infiltration of the lower lobe occurred postoperatively. On clinical and restgenological examination, six of the patients appeared to be bealed.

2 In ten operations total extirpation of the two upper ribs with cutting through of all the scalenus attachments and resection of pieces of decreasing size from the third to the seventh rib was done. In some of the cases apicolysis was carried out, while in others the operation was done extrapleurally Com plete collapse of the cavities resulted in seven cases and partial collapse in two cases. One patient died of paramonla of the lower lobe of the affected lung three weeks after the operation. All of the patients were examined with the X rays from two to three weeks after the operation. In cases of insufficient collapse of the cavities, resection of the anterior por tions of the third to the fifth or sixth ribs anteriorly from the axilla was usually performed immediately This second procedure must be carried out before

new development of the resected ribs occurs. The effect of these plastic operations depends upon lateral compression of the upper lobe of the lung, shortening of the horizontal axis of the lobe and thattening of the longitudinal axis of the lung The hing lobe unks down as a result of the cutting of the scalenns muscle and the apicolysis. These types of operation alter and widen the indications for surgical treatment in pulmonary tuberculosis. They widen the inducations because they permit operation even in bilateral cases. Otherwise a smaller and less trau matiring procedure—such as the partial plasticwould be recommended instead of an extensive cripping operation of the total plastic type They slier the indications as the described operative technique makes phrenic exercis superfluous in cases of inherculosis localized in the apex and upper bbe. The apicoplastic operation permits use of the formal lower lobe of the lung whereas exercise renders this impossible.

The author emphasizes the great importance of co-operation between the surgeon and the tubercu losis specialist and believes that the operative treat ment of pulmonary tuberculosis should be carried out only in certain hospitals. By means of this treat ment a percentage of the most dangerously infectious patients can be cured, a fact of great hygenic importance. This method of treatment is important also from the economic point of view as it requires a much ahorter time and therefore is much cheaper than any other treatment of pulmonary tubercu losis.

KONTENDAY (Z)

Ascoll, M.: Non Tuberculous Suppurations of the Lung (Nichttuberkuloese Vereiterungen der Lunge) Verhandl. g. Kong sniemal Ges. Chir. 1032 il. 163

Ascoli reports upon the knowledge and experience gained during the past five years with regard to true lung abscesses, that is collections of pus in the pul monary parenchyms. Pulmonary gangrene bron chiectasis and actionopycous are not considered

Lung abscesses are divided into (1) the acute abscesses due to pus bacteria which are located in the perenchyma of the lung either centrally or periph erally and tend to heal spontaneously by breaking through into a bronchus or the pleural cavity or to the exterior of the body (2) the acute, primarily putrid abscesses without laudable pus which seldom heal spontaneously and usually tend to infiltrate the lung progressively rendering the prognosis unfavor able and (3) the suppurative pneumonia arising from septic contamination of the air passages in cases of bronchopneumonia. Chronic abscesses develop as a rule from the acute forms especially the putrid forms. In the chronic abscess there is often a large cavity with several small cavities which are in communication with one or several bronchi To these is usually added a secondary bronchiectasis. The ann tum is more frequently foamy than purulent.

In Italy the incidence of lung abacess is not very high In the surgical clinics in Rome a pulmonary abaces is found in only a of every 1 coo patients. Of 37 patients whose cases are reviewed by the author 66 per cent were between twenty and forty years of age and 77 per cent were males. In 51 7 per cent the condition could be traced to a grapp pneumonia. In 63 per cent the right lung particularly the middle lobe, was the part affected. In the left lung the lower lobe was involved most often. Bacteriological examination revealed diplococci attentions occur, and all types of anaferobes.

With regard to the pathogenesis of pulmonary appuration, the author states that he prefers the 'ab ingestle' theory to that of embolism 'He was able to prove the former experimentally after inducing conditions as nearly as possible like those following operation by reducing the resistance of the respiratory tract to infection by producing a fistula between the craophagus and trachea. Especially important as an etdological factor in pulmonary absects in bronchopneumonia less important is lobar pneumonia. Chromic bronchits and bron-

chiectasis extending into the parenchyma of the lung untilly cause chronic abscuses. Other causes of lung abscuss are subphrenic abscuss, lymphadenitis of the mediastinum, encapsulated empyrams, pathological communications between the six and food passages, septic emboll, foreign bodies which have entered the respiratory passages (ensetthesis, epileptic attacks), and open and closed lung injuries.

In cases of chronic abscess the possibility of tumor should always be considered as a tumor may closely simulate an abscess by breaking down or may produce an abscess by causing pressure necrosis. Catarth of the nasal sinuses may produce an abscess in

the lung by way of the lymph channels.

The symptoms of long abscess include cough and expectoration. In q of the author's cases the purtum contained blood in 33 per cent, elastic fibers and in more than 33 per cent hematodin crystals. The sputum is not so copioms as in cases of bronchiectasis, and after standing awhife in a glass it separates into 3 typical layers an upper foam's layer an opulescent middle layer and a green lower layer. The fever usually falls when the abscess breaks through. Localized spontaneous paln was present in 18 of the cases awdered, and pain was elicited by pressure in 18. The abscess in nearest the chest will at the point where the pressure pain is most clearly localized. Hemoptysis is a frequent manifestation it was present in q of the cases reviewed. Clubbing of the fingers was found in only 3 cases.

To clear up the disposits and the localization the author especially recommends stereoscopic roent geograms. If a pleural efusion is present it should be removed and a poeumothorax substituted. Adhesions of the pleura to the chest wall will then be demonstrated very distinctly Bronchoscopy is actively of any value in the dismonis of lung abscess.

Of the author's 27 cases, 3 became cured spontane couly 13 were cured by operation, and 11 treated surgically were fatal. In the cases in which operation was performed when the disease had been present less than six mouths the mortality was 19 per cent, whereas in the remainder in which the average dura tion of the fillness preceding the operation was ten mouths, the mortality was 73 per cent. Metastatic brain abscess developed in 10 per cent of the cases.

The author has obtained only temporary results with necesivarian Bronchoscopic treatment is indicated only in cases of foreign bodies which can be removed with the bronchoscope. Pneumothorax is especially applicable in cases of centrally located abscemes of not more than three or four months duration which have established good drainage through the bronchus and are associated with too extensive picural adhesions. The pressure from the intropleural air cushion should never be permitted to choke off drainage through the respiratory passages. Treatment by pneumothorax should be continued for four or five months. In three of the author's cases, in which pneumothorax was continued for from six to twelve months, striking improvement occurred, but when the pneumothorax was stopped the process flared up again and operation became necessary

In cases of chronic abscess (those which have failed to heal in two or three months) the methods cited have no indications and only operation is of any value. In the author's opinion, phrenic exercis is not very successful as, by retracting, the elastic parenchyma of the jung pullifies the mechanical pressure obtained from the elevation of the dis phragm. In any case, simple crushing of the nerve. which in the author's experience achieves immobiliaation of the disphragm for as long as six months, is to be preferred. In a of the author's cases pneumolysis by means of parassin filling was done, but opera tion became necessary two months later Ascoli recommends resection of a rib to facilitate compression of the lung against the chest wall by the mass of paraffin. He rejects intrapleural pneumolysis because of the danger of infection. When collapse therapy is to be attempted, extrapleural pneumoly sis by means of paraffin injections is preferable to extrapleural thoracoplasty because thoracoplasty hinders expectoration. For peripherally situated monolocular abscrates pneumotomy is the method of choice. However, the author warms against ex

ploratory puncture through the chest wall Abscesses of the upper lobe are best reached through the anterior aspect of the chest, those of the middle labe, from the side and those of the lower labe, from behind. Ascali operates under paravertebral later costal nerve anesthesia. Two or three ribs are resected for a distance of from to to 15 cm. When pleural adhesions are present the periosteum and soft parts are removed in the area of resection to assure good access to the lung. The abscess is then located by means of the aspirating needle and is opened with the thermocautery. For drains, game saturated with balsam of Peru is recommended as dry gauze adheres to the wound edges and rubber tubing produces pressure ulceration. During the operation Ascoli keeps the patient's head lower than the chest to guard against cerebral air embofism. If pieural adhesions have not developed, general ansesthesia with positive pressure is induced and the pleura is opened. If the site of adhesions has been missed, the pleura is immediately closed hermetically and a new incision is made at the site of the adhesions, or further procedures are delayed for several days to allow the formation of adhesions, or the pleared cavity is packed off and the abecess is opened at once. When delay is possible, the formation of adhesions may be stimulated by parafin injections or by extrapleural tamponade with games followed by resuture of the skin. The paraffin filling should be extensive but not very thick. After seven days, adhesions are usually well developed and the abacess may be opened. Healing requires about three months.

When resection is indicated, the author favors the s-stage operation of Lockwood and Graham. In the after-treatment the Garré Lebeche operative method has proved most satisfactory. In r case Ascoll sac cecied in converting a bronchopleural fistula into a bronchocutaneous fistula by the Schede operation.

The world literature on non tuberculous suppura tions of the lung for the past five years is reviewed and a very extensive bibliography is appended

CAPALDI (Z)

Baumdartner A.: Surgical Treatment of Non Tuberculous Pulmonary Suppurations (Chirur piche Schandlung der nichttuberculoesen Lungenelterungen) Verhandl d o Kong internat Ges f Chr 1932 ll, 101

This report is based on 101 cases of non-tubercu loss hing suppurations which were treated con jointly by departments of internal medicine and

Of importance in the prognosis of such suppura tions is the differentiation between true interlobar suppurations and suppurative processes situated in the pulmonary tissues near the interlobar fissures In the clinical differentiation between localized abscenes and bronchiectaais, filling of the bronchial tree with liploded is of great aid. With regard to the indications for operation the following rules should be borne in mind

Operation should not be done routinely as soon as the diagnosis is made as many suppurative pulmonary conditions become cured spontaneously or under medical treatment.

2 All methods of collapse therapy are to be mistrested to the same degree as the never-adequate suction with the bronchoscope.

3 Necessary operative interference should not be delayed too long

Beamgartner has found that the best time for the opening of an abscess is from six to eight weeks after the first manifestations of the condition, and that operation for gangrene should be delayed for about two weeks. A longer expectant period permits the development of suppurative and sclerosing pneu monic processes in the vicinity of the original focus, which have an unfavorable effect on the results. The operation consists of simple pneumotomy in the ica complicated processes or of partial resection of

the diseased portion of the lung In order to clarify the nomenclature used for pulmonary suppurative conditions, which varies with the different schools of teaching and in different countries, Baumgartner suggests that the term pulmonary abscess" be used to designate a localized suppuration in the lung which occasionally heals spontaneously and the term "pulmonary gan pene" to designate a primary necrosis of the pulmomry tissue which is followed by a suppurative breaking down and is almost always fatal. Between these two extremes are to be found transitional forms which appear initially as an ichorous suppura tion with the characteristics of a primary necrosis, supportation, and sclerosis of the surrounding tissues and tends to become chronic. The clinical pictures of these different pathological processes are described in detail. Bronchlectasis may be complicated by abscess formation in the surrounding pul monary tissues. The diagnosis of pulmonary suppurations is rendered difficult by the co-existence of a pleural effusion.

In the discussion of the possibilities of internal treatment, injections of serum and of vaccines are mentioned The author has never seen convincing results from neosalvarsan. He states that collapse therapy should never be resorted to when the abscens is near the pleura and even when it is pituated elsewhere valuable time should not be lost by this method. Phrenic exercis alone is not apt to effect a cure it is merely a supportive measure. Drainage of the abscess through the bronchial tree has been at tempted by the Quincke postural drainage and by bronchoscopy but is nearly always inadequate. The true causal therapy of pulmonary suppuration is a direct surgical attack on the purulent focus. The operative methods for the various forms of pul monary suppuration are discussed in detail. For the localized fresh abscess and for the beginning putrid abscess direct opening up of the purulent focus with external drainage is the simplest and most satisfac tory method of treatment. Abscesses which begin as ichorous abscesses and gangrene should be treated by pneumotomy with removal of the outer pul monary wall of the pus cavity Chronic and diffuse pulmonary suppurations always demand partial re section of the disessed lung tissue. Extensive bron chiectasis with abscesses in the surrounding pul monary tissues justifies the removal of an entire lobe of the lung In cases complicated by a purulent pleural effusion, opening up of the suppurative focus and removal of the diseased tissues is followed by cure only when a Schede plastic is added technical details and the complications of this opera tion are shown by some of the author's own cases Removal of an entire lobe was attempted in only 1 case and had an unfavorable outcome.

The article is concluded by an extensive review of F KLAGRS (Z) the literature.

GESOPHAGUS AND MEDIASTINUM

Bircher: Œsophsgus Surgery (Zur Oesophsgus-Chirurgie) Verkenell o Kong internot Ges f Chir 1932 1 535

In the introduction to this report Bircher calls attention to the enormous amount of literature on surgery of the esophagus He states that surgeonsvon Hacker and von Mikulicz-laid the foundations for exophagoscopy the procedure which, next to roentgenoscopy and roentgenography of the cesopha gus, was of most importance in rendering cesophageal surgery possible. He limits his discussion to

I Strictures and dilatation of the esophagus

a. Total dilatation—cardiospasm.
 b Local dilatation—diverticula.

Tumors of the esophagus and esophageal plastics. . Foreign bodies in the cesophagus.

In summarizing the first portion of his article, Bircher says that operation is indicated in all cases of cardiospeem with dilatation of the cesophagus in which diletation procedures or continuous sounding hes falled to effect a cure. Anastomosis of the complaints to the cardia has proved the surest and most reliable method. In suitable cases plastic sec tion of the resomberns has also given mod results In recent times the technique of total extirnation of the stomach has been modified so that anastomoula of the stomach to the grouphagus or the cardle is no longer opposed. As in the Billioth II procedure the doodenum is first closed. Then on the resorbagua or the cardia, a double joinnal loop is brought up. into which the proximal stump of the cardia or the resonhagus can be easily introduced by Bircher's procedure. A Braun entero-anastomosis should be added. Jejunestomy is advisable for feeding.

The sampleal treatment of coupleageal diverticula is the most satisfactory and perfected phase of coupleageal surgery. The work of Lothelsen is cited. In discussing diverticula due to traction the author describes irrigation of the diverticula. He states that operation seldom producers a cure. The chief sidd for sac extripation is the treatment of pharyago-caphageal diverticula. In case of deep diverticula, treatment with metal dilators by furnishing a method is indicated a creation case of their diverticula are called the distribution of the couple of the

The methods of operation are (1) diverticulopery (2) invagination by Girard's method, (3) ligation according to the Goldmann Beck method and (4) resection of the diverticulum in 1 or 2 stages separation of the mediastical portion and the formation of an ansatomosis between the storacch and

the diverticular sac

The surgery of cancer of the exoplagus, including the cardla, finds its highest achievement in the removal of cancerous portions from the exophagus. Its development has been based on nomerous soland experiments many investigations on human beings, great accritices, and isolated and transitory results. The methods to be considered are (1) total reaction of the cancer (2) pullistite gastrostomy (3) intubation treatment and (4) radium and rocenteen thermy combased with surgery.

In summarizing Bircher says If we review all of the procedures used in the 100 cases on record—

probably as many others have not been reported we must admit that, in spite of success in 2 cases, radical operation for carcinoma in the thoracte por tion of the orsophagus by various methods and

combinations of methods has falled

Bircher next discusses abdominal resection of the cardia. This procedure also is unswifustory as palliative measures such as gastrostomy integral conditions and enophagoplasty as always necessary. Antehoracic enophagoplasty is the highest development of plantic surpey. In its perfection many surposes in all countries have had a part. According to Lotheisen, gastro-enophagoplasty has the highest mortality (75 per cent) of the radical operations. It may be dwided into the following types.

I The formation of the cesophagus from the

a. Isoperistaltic.

b. Anteperistaltic.
 The formation of the cesophagus from a part of the atomach.

a. From the greater curvature.

b From the anterior wall.

In summaring Bircher says foods the strickal formstron of a functioning encodages may be regarded as an operation with a well worked-out technique which is of definite value in carefully selected cases. There are a variety of methods, all of which give satisfactory results. The simplest and safest procedure, which in recent years has become more and more popular is the demanto-encodage more and more popular in the demanto-encodage plant. Nort to be considered from the standpoint of rifety is the colopianty. The jojunoplant of rifety is the colopiant very dangerous. The gastroplanties are such major operations that they are performed only exceptionally.

In discussing foreign bodies in the encophagus the author states that diagnosis with earth catalisation of the foreign body before operation is important. The operative procedures for complagationizing bodies are cervical encophagus tomy and thoract encophagus formy most thoract encophagus most the complications which may arise in the treatment of encophagus foreign bodies are homorphage, which is often very savere cellulitis of the neck, which is often very savere cellulitis of the neck, which is reliairly frequent, and mediasting cellulitis.

The report has a bibliography of 334 references. F. Orans (Z)

SURGERY OF THE ABDOMEN

GASTRO-INTESTINAL TRACT

Wilkinson, J. F. The Anti Anzemic Principle in Stomach Thrue. Proc. Roy. Soc. Med., Lond., 1933, xxvi, 1341

The term "hemoporetin' has been suggested for the active hamopoietic principle contained in stom ach tissue. This principle has different properties from those of the active principle in liver and is much more unstable than the latter. It is present in the alver for as well as in the hog and is apparently absent in such herbivorous animals as the sheep and ox. The effectiveness of harmopoletin can be determined only in carefully controlled cases of permicious anemia, with the use of reticolocytosis and an intrease in the red cells as criteria. Many active frac tions have been obtained. Pepuin appears to be al ways amodated with hemopoletin and is difficult to sparate from it. Two fractions have been prepared by iso-electrical precipitation. One of them con tains practically all of the pepsin and is clinically bractive in doses of 7 5 gm. The other is almost free from pepsin and gives good clinical results when ad ministered by mouth in doses of 5 gm. daily

WALTER H. NADLER, M.D.

Broon P., and Ortega S.: The Early and Late Results Obtained by Different Methods of Operation in Seventeen Cases of Hourglass Stormach Scondary to Gestric Ulcer (Dix-sept cas de bilconation partique organique d'origine ulceruse opéris par differentes méthodes. Résultats immédiatio résultate ficignés) Bull et mêm. Sec not de dir 193 1971, 1958.

In one of the cases reported three operations were Performed. The first was a gastro-enterestomy in which the superior or profitned gastric pouch was said the second, a gastrogastrostomy and the third, as operation for the separation of adhesions. Four case were treated by gastrogastrostomy, four cases by slerer reaction, and one case by gastro-enterostomy in which the prosimal pouch was used and the datal gastric segment was reacted. In als cases, rescion of the stomach was done by either the Billith HI or the Polys Finaterer technique. In one case both gastric pouches were excised.

Two of the patients died in the hospital and two ded several months after leaving the hospital in pod condition. In five cases the operation was per formed too recently to permit an opinion regarding the late results. Twelve patients who were operated spen from three to inflicten years ago are now in pod condition. The authors conclude that the best results are obtained by radical resection, and that fautio-enterostomy should be done only when the patient is unable to withstand more extensive sur try

Savort J Footnoor M.D.

Roeder C. A.: Total Gastrectomy Ann Surg 1933, xcviii, 221

The author reports three cases in which he per formed total gastrectomy and reviews eight, five cases collected from the literature The first total gastrectomy was performed by Conner in 1884. The first partial gastrectomy on a human being was done in 1870 by Pean and the first partial gastrectomy with a successful result by Billroth in 1881. In 1897. Schlatter reported the case of a patient still living fourteen months after a total gastrectomy.

In the eighty-eight cases of total gastrectomy reviewed by Roeder there was an operative mortality of forty four deaths due to shock hemorrhage or peritoneal or pulmonary infection. Recurrences of cancer after gastric resection are usually found in the remaining portion of the stomach the liver or the retroperitoneal lymph nodes. From a study of the intramunal extension of the cells of gastric carcinoma, Verbrugghen concluded that at least 4 cm of apparently healthy stomach wall should be removed with the growth

Essentially the technique of total gastrectomy includes resection or mobilization of portions of the costal cartilages of the left side to provide better exposure, the preparation of an artificial atomach by a 6-in entero-anastomous, and auspension of the artificial stomach to the stump of the esophagus.

Of the author's three patients treated by total gastrectomy one died three days, and another died five days after the operation from pulmonary cedema and gangrene. Both of these patients had carenoma. The third patient presented an epigastric mass which was found to be crater like and to extend up the posterior wall of the stomach to a point near the cardiac orifice On section of the tumor no malignant cells were discovered and the neoplasm was found to be of an mflammatory nature

Roy A. Luxubla M.D.

McIver M A.: Acute Intestinal Obstruction Eighth Installment. 4m. J Surg. 1933 xxi 307

In this article McIver discusses the pre-operative, operative and post-operative treatment of acute in testinal obstruction.

In the pre-operative treatment, pain should be relieved by the administration of morphine as soon as the diagnosis is made and measures should be taken to maintain the body temperature, especially in the type of case in which collapse is impending Undue exposure during examinations should be avoided. As the patients have usually lost consider able water and are dehydrated it is important to replace the water as well as the electrolytes, sodium and chloride. This should be done preferably by the administration of isotonic sait solutions and a 5 to

so per cent solution of destrose. The finid may be given subcutaneously intravenously or prectum. If there is considerable dehydration, all three routes should be employed. The author recommends the administration of normal suline solution by rectum. Pre-operative gastric lavage is important, especially in the case of patients who have woulded.

The anesthetic should be chosen according to the requirements of the particular case. The use of ether is followed relatively frequently by shock and collapse and inhibits peristaltic activity. Novocain is often the amenthetic of choice, especially in the more serious cases in which extensive exploration is contemplated. In novocaln anaesthesia the danger of the aspiration of vomitus is avoided, but complete muscular relaxation is not obtained. Nitrous oxide has no depressing action, but unless it is carefully given the relaxation of the abdominal muscles is poor Spinal anasthesia is frequently used because of the complete relaxation it affords. However on account of the danger of shock, it should be used cautiously in the cases of patients who are extremely ill. The mortality amortated with the use of various types of amenthesis and amenthetics in cases treated at the Massachusetts General Hospital in the period from 1000 to 1017 was as follows ether 25 per cent spinal amenthesia o (used in only i case) local, 60 per cent novocain and general, 60 per cent nitrous oxide-oxygen, 75 per cent and ethylene 11 per cent. In the operative procedure, gentleness and care must be employed as manipulation not only tends to injure the bowel, but greatly increases the shock and possibly the permeability of the intestine. In the cases of extremely ill patients an enterostomy

the case of extremely ill patients an enterostomy should be done without exploration if the obstruction is in the small intestine and there is no evidence of grazagulation. If the obstruction is in the large bowers recovery would be done with a large tole, the control of the control of the control of the bowers of the control of the control of the tolerance of the control of the control of the cavity to determine the presence of bands, a growth or volvulus. If the connervative method of exploration is impossible, partial or complete evisceration is essential.

The character of the peritoneal field is of importance. In a recent series of 335 cases at the Massa chasetts General Hospital there were 21 cases in which blood-stained fluid was present and gross interference with the mesenteric blood supply was found. In a number of cases the fluid was described as fool-smellior.

The author believes that Monks method of identifying the small intestine is of value. Evacuation of the distended loop of bowel is ac-

complished best by aspiration after the introduction of a fine needle into the lumen of the bowel.

In some cases the cause of the obstruction may be

In some cases the cause of the observation may be removed directly as by the division of constricting bands, the univisiting of a volvulus, or the reduction of the strangulated hernia or intususception. If the obstruction extend the removed, an enterestamy or an entero-enterestumy is often indicated. In cases in which resection is considered the viability of the bows must be determined. The appearance of the peritonesi cost should be noted. If the peritonesi coat has lost its normal sheen and is a dull gray and covered with fibrin the bowel is probably not visite. Palpation is helpful as the visible intestine has a or tain tone which can be felt, whereas the non-vishe bowel has a relaxed, sodden feeling. The presence or absence of peristals should be noted. In doubtful cases the loop should be wrapped in a money of warm saline solution and a short time allowed for the circulation to become re-established. If doubt still remains, the loop should be brought out and the peritoneum closed around it. If a small secretic area is present it may be infolded. After the reset tion of a portion of bowel it is necessary to decide whether an anastomosis abould be done immediately If the necrosis is high in the intestinal tract anastomosis is probably advisable as fistule in this por tion are not well tolerated. Paul tubes may be introduced into both segments and subsequently joined

by means of a rubber tube. In as resections done at the Massachusetts General Hospital there were 16 deaths, a mortality of 73 per cent. In a cases in which the anastomous reestablishing the continuity was performed immediately there were 7 deaths. In 13 cases in which the ends of the intestine were brought out and anestomosts was delayed for a future operation there were 9 deaths. In the cases in which only relief of the obstructions was done the mortality was 10 per cent. In those in which the obstruction was relieved and the bowel drained, it was 55 per cent. In cases treated by drainage of the bowel alone the mortality was 58 per cent in those treated by resection, it was 73 per cent, and in those treated by miscellaneous operations, it was 83 per cent.

ALTON OCHRICA, M.D.

Wahren, II i Studies on the Relationships of Ges Metabolism in the Interties in So-Chilel Paralytic Benza. A Clinico-Experimental Inrestitation (Studien under die Geserchischer ischnisse in Darm bei sogentauten paralytischen Ison. Eine Mithich-experimentals Unternatungi-Act disrey Seast 1933 Irs, Sopp. mil.

The author deals with the fless that develops draining a progressive septic peritonics and may be seen cated with octania transmit accordation. The many progressive septic peritonics and may be seen cated with octania transmit as paralysis self-point of the seen and the peritonic fless is paralysis self-point of the seen above in the non-confusion of the peritonic and studies of the motor function of the peritonic and studies of the motor function of the intention have failed to offer an explanation of the intention have failed to offer an explanation of the intention have failed to offer an explanation of the intention have failed to offer an explanation of the intention have failed to offer an explanation of the intention of

In experimental studies there was no increase is the production of gas by the intestinal contests, but ma result of disturbances of the circulation an in cressed accumulation of carbon dioxide occurred in the intestinal wall and the surrounding tissues. Staties on the conditions of resorption in experi mental septic peritonitis showed a marked reduction of resorption in the later stages of the condition This also may be a result of the disturbance of the circulation during peritonitis. The dilatability of the interinal wall is not increased

Studies on the gas metabolism in the intestine after experimental trauma revealed a slight increase in the production and a marked decrease of the resception of gas when one or both kidneys were trau

mathed instead of the intestine

The relationship between intra intestinal pressure and the circulation in the intestinal wall is empha aired, and attention called to a probable relationship between increasing intra intestinal pressure impairment of the circulation and deterioration of the meral condition.

The author believes that in the development of mechanical and paralytic ileus disturbances of the diculation are of more importance than intestinal obstruction. LOUIS NEUWELT M.D.

Pecinino, G The Design of the Mucom of the Large Intestine in Normal and Pathological Conditions (Il disegno di mucosa del grosso intestmo in tondizioni normali e patologiche) Radiol 1933, XX, 573

According to the studies of Forssell, the mucosa of the digestive tract is endowed with a plastic autonomy and is able to mould itself in various ways according to the requirements of digestion The author describes the technique necessary to deter

sine the design of the mucosa of the large intestine. In a study of the different phases of the emptying of the bowel during the administration of enemas special attention was directed to the sphineter musde which acted like a true motor center governing the pertutaltic activity of the colon. The design of the mucosa under normal conditions and the various changes observed in many morbid states are de scribed. In consupation there is found along the desending colon and sigmoid a predominance of transrene folds. In inflammatory processes there is a change in the normal arrangement with marked irregularity in the distribution and a thickening of the folds. These changes are especially marked in accrating colus in which in the acute stages, there h a total loss of design with the presence of nicers and, in the later phases, an arcolar appearance fol loved by a granular appearance

In chronic appendicatis there are found in addi tion to the changes in the appendix itself, marked changes in structure in the head of the coccum caused by the constant spread of the inflammatory reaction

In stemosis, not only the condition of the mucosa but sho the capacity of the bowel wall to distend in thered. The ability of the wall to distend is destroyed by infiltrating processes.

In diverticula of the colon the design of the mu cosa which is normal in the first stage, ultimately becomes greatly altered by the superimposed in flammatory process and assumes the appearance of an accordion because of thick transverse folds. In invagination of the colon characteristic images anpear such as opaque rings spirals and onlon like arrangements which are an expression of the arrange ment of the mucosa as it curls on the invaginated portion. Kellogo Speed M D

Pellearini O A Case of Severe Appendicitis in a Herniated Appendix (Un caso di grand appen dicite in appendice emiato) Clin chir 1933 ix

The case reported was that of a child eleven years old who developed acute appendicatis in an appendix which lay in an inguinal hernia on the right side. A faculith lodged in the proximal end of the appendix caused necrosis of the appendiceal wall and apon taneous amputation of the appendix. The proximal stump of the appendix then retracted into the abdomen so that the excal contents escaped into the peritoneal cavity Death resulted from general perito-

According to the literature the appendix is found in the hernial sac in from 0.20 to 0.80 per cent of cases of hernia. In the author's clinic it has been found in a hernial sac once in 270 patients.

A. Louis Rost M.D.

Palma R., and Perona, P : Appendicitis, Peri cholecystitis, and Periduodenitis (Appendicite pericolecistite e periduodenito) Arch ital di chir-1933 XXXIII 709

Essential penduodenitis has been described as a pathological entity by Duval, Donati Leotta, and others. The term should be limited to cases of periduodenitis in which the lesion is confined to the duodenum and there is no other lesion such as ulcer of the stomach or duodenum appendicatis or inflam matory processes in the gall bladder, ascending colon or elsewhere which might be the cause of the condition. The diagnosis is very difficult as the exclusion of other lesions requires an accurate clinical check up supplemented by roentgenological and operative control.

The authors report seventeen cases which show the relationships between appendicitis, pericholecystitis, and periduodenitis. This group is of interest because it may serve to explain the persist ence of symptoms following surgical operation on the appendix, gall bladder, and duodenum. Four teen of the patients were women who complained chiefly of dyspepsia. In some cases the dyspepsia was accompanied by vague pain in the region of the appendix or gall bladder Constipation was com mon

Examination usually reveals nothing in particular, but in some cases there may be tenderness in the region of the appendix or the right upper quadrant of the abdomen. Operation usually discloses an in

figuratory lesion in the appendix and membranous adhesions between the organs secondarily involved and the adracent structures.

The authors believe that in most of their cases the initial lesion was a chronic appendicitis, and that the involvement of the other organs took place

through the lymphatics.

In discussing the roentgenological aspects of pervisceritis they state that the demonstration of de formity of the organs or abnormality of their function by the roentgen ray may formish important add in the diagnosis. ECONNET LEONY M.D.

Bensaude, R.: Primary Anorectal Actinomycosis (L'actinomycose ano-rectale primitive) Press #H Par 933, zil, 17

Anoretal actinomycosis has a very poor prognosis when it is not recognized early or is left untreated. Its diagnosis is difficult because in the great majority of cases the possibility of the condition is not given much consideration. Treatment by surgery the ad ministration of lodine, or irreduction is effective only

in the early stages.

The author discusses only actinomyonis which is primary in the arns and recrum, leaving out of consideration the cases in which the actinomyons becomes lodged first in the region of the occum, the appendix, the ovary or the bladder and invades the rectum and surrounding times secondarily. However primary actinomyonis of the rectum is not a primary leation of the coats of the rectum like that occurring for example, in rectal tuberculosis. In the great majority of cases there is primary hardware of the perfectal connective tisses after penetration of the primary leases. The condition is therefore essentially a primary permetal of the primary permetal connection of permetal connections. The condition is therefore essentially a primary permetal actinomycosis untilly of rectal obrigin.

Next to the mouth neck and enophagus, the intestinal tract is one of the most frequent attes of involvement by actinomyces in the intestines the most common site of actinomycosis is the region of the appendix and ercum and the next most common site the anorectal region. In 1903, Therenot collected fifteen cases of anorectal actinomycosis, pri mary and secondary. The author has been able to find the records of twenty case of the primary type.

The anatomical lesions of anorectal actinomycoels are strikingly similar in all cause. Ulcers of the mucosa are rare but deep, burrowing abscesses con taining the actinomyces are found with a woody hardness in the pararectal tissues. The discovery of the characteristic yellow granules is diagnostic.

The inoculation occurs most frequently by the deconding route the actinomyces being inpested with food such as milk, poorly baked bread, or meat, inoculation by the sacending route occurs from external contamination of the anns and is most common in farmers who come into contact with infected straw and earth.

The author reports a case to show the ease with which the condition may be confused with hemor rholds, the characteristic narrowing of the rectal lumen and ampulla, the woody induration of the perirectal tissues, and the pliability of the mucosa over the induration.

The condition passes through the following for phases (1) an initial phase with pain in the buttota, diarrhera, colle, and lever (a) a phase of woody indituration and perirectal stenois, in which the meous appears normal on rectoscopic examination (1) as phase of absects formation and fistilization in which the inquinal glands remain uninvolved unless seondary infection occurs, and ultimately general sylderic and the state of the state of the state of the other conditions of the state of the state of the layer.

The prognosis is very unfavorable. Only one of the twenty cases collected by the author from the literature was cured. Death is usually caused by local apread of the infection and amyloid degeneration of parenchymatorus organs with or without

scotice mis.

The surgical treatment should comsist of wide recision. However this is often impossible because the condition is not diagnosed sufficiently outly Under such circumstances, local disularge or lacision with curettage may be tried. Large doses of potasium lodide or amenical salts have been tried. At cording to some reports, improvement has followed recuption or admin irradiation combined with medcal and surgical treatment. In South America a vaccine therapy has been used.

Krilogo Spiero, M.D.

LIVER, GALL BLADDER, PARCREAS, AND SPLEEN

Buettner W and Lemmel, G: The Condition of the Liver and Gall Bladder in the Presence of Minute Stones in the Bills (Ueber das Verlakin von Leber und Gallenblase beim Vorksenner von Mitrolithen in der Galle) Arch. f. path. 4nd 1033, oftwell 45

Of 800 successive autopaies, amail stones were found in the bile in 75 (0.4 per cent). The data on which the authors conclusions are based are pre-

sented in tabular form.

The formation of the stones was favored by and foliary stasis. In general, minute stones are found in the bile only in the presence of pathological changes in the liver Purely mechanical stats of bile without liver damage was not reflicient for stone formation. Blutues stones were found also in association with inflammation of the moreous of the pilludder. Apparently the formation of these status stones took piace in the small bile passages, pathological theorem in the majority of the cases are the state of the pilludder apparently the formation of the state of the pilludder and th

The liver changes which are always present include the following conditions brown strophy liver dis-

ene with gradual or rapid massive destruction of the parenchyma liver changes associated with severe specific or non specific inflammation, and milder changes, chief among which are an increase in the intenstitial connective tissue and degeneration Newly formed minute stones usually indicate recent changes in the liver and older stones indicate more thronic changes. The formation of the minute stones is due entirely to diffuse or circumscribed liver-cell damage. To the extent that liver-cell damage is frequently a manufestation of constitu total disease, the formation of minute stones is also related to constitutional disease. In cases in which minute stones are present there seems to be a disturbance of the secretory function of the liver This theory is supported by the following facts

t Bile which is poor in pigment contains minute stones more frequently than bile which is rich in pigment.

2. Gall bladders with relatively small amounts of ble contain stones oftener than those with large quantities of bile.

A. STAPF (Z)

Newman, G. The Physiology of the Gall Bladder and its Functional Abnormalities I Physiol of II. Disorders of Motility III Abnormalities of Concentration and Secretion in the Gall Bladder Laser 1933 ccriv 841 896

In reviewing the physiology of the gall bladder Nemma discusses the concentration of the bile, the structure, function, and mechanism of emptying of the gall bladder the expulsion of bile in the absence of a gall bladder and nervous and pharmacological stimeli.

CONCENTRATION

Since the work of Rous and McMaster, concentration of the bile has been recognized as a function of the gill bladder Rous and McMaster showed that 40.3 c.m. of bile are concentrated by the gall bladd 470 to 40.5 c.m. in twenty two and a half hours, and that by simply flowing through the gall bladder the bile is concentrated from two and three tenths to four and eight tenths times. The concentration is effected by the columnar epithelium of the fundulum can exerte zo c.cm of mucous fluid a day. The remainder of the extrahepatic bile tract dilutes the bile with mucous and does not concentrate it. Blond says that under the Influence of Carlabad salts the

For on scorete a twenty times concentrated bile.

Constraint of the bile is effected mainly by the absorption of water. As it progresses, sodium chloride is absorbed more rapidly to keep the total consict concentration the same as that of liver bile and srum. During the concentration acidity in crassa. Contrary to the previous belief that acidity influences the formation of stones, organized crystal factions resembling stones can be made by alkalinizing bile. The administration of acid or alkall by south does not affect the hydrogen ion concentration of bile in man.

Calcium is excreted by the liver also by the gall bladder when the cystic duct is obstructed. It is not secreted by the normal gall bladder but is concentrated by the absorption of water and to some extent as absorbed.

Bilirubin also is concentrated chiefly in the gall bladder from five to forty times (usually twenty times) whereas other constituents are concentrated

only from five to ten times.

The secretion of cholesterol and bile salts by the gall bladder has been a subject of controversy since Naunyn a contention that cholesterol is secreted by the gall bladder and Aschoff's demail of this theory. It is now generally believed that the normal gall bladder does not secrete cholesterol. In twenty four hours a man secretes 0.4 gm of cholesterol and 5 gm of bile salts. The latter hold the cholesterol in solution by forming a water soluble addition compound The quantity of bile salts varies inversely with the acidity of the bile. The water-soluble addition compound is absorbed by the gall bladder. Cholesterol is not absorbed to any significant extent.

Mucin is added to bile in the gall bladder. Albumin and globulin are not present in normal bile and are not secreted by the normal gall bladder. Fats, lecithin and soaps are formed by the liver and concentrated in the gall bladder.

MOTOR MECHANISM

The filling and emptying of the gall bladder depend mainly on the dosing and opening of the sphincter of Oddi. By the term sphincter of Oddi the author means only the circular ring of muscle fibers at the tip of the ampulla, not the entire ampulla. The wall of the ampulla itself is composed of oblique and longitudinal fibers in a thick layer. The gall bladder contracts by the action of smooth muscle fibers in the fundus and neck. The tone of the sphincter is influenced by several factors. It is in creased by fasting alkalinity of the gastric contents and distention of the stomach and is decreased by feeding acidity of the gastric contents and the presence of magnesium sulphate in the stomach.

The liver secretes a thin watery bile continuously at a pressure which may rise to from 300 to 300 mm of water When the sphincter of Oddi is contracted the bile ducts fill, and when the pressure rises sufficiently the gall bladder begins to fill. The gall blad der concentrates the bile and receives more bile as the pressure falls to the level of that in the ducts. When meals are ingested regularly the gall bladder can hold all of the bile secreted in twenty four hours -from 500 to 1,300 c.cm When this amount is con centrated ten times it fills the gall bladder from one to three times. When the gall bladder is full the sphincter of Oddi relaxes, and bile flows into the duodenum this fact explaining the presence of bile in the duodenal contents in the fasting state and its absence two or three hours after a meal.

There is definite proof that the gall bladder con tracts during the process of emptying. The physiological stimuli are the passage of food into the duodenum or after eastro-enterestomy into the leiu num, and a small psychic response to the sight and smell of food. Among the substances which cause emptying of the call bladder when inserted are egg volk, fata cream, milk, vesetables oils, Witte a pentone and magnesium spinhate. The hypodermic injection of pituitrin, histarpin, and cholecystokinin causes emptying of the gall bladder. Under the influence of any of these stimuli the tone of the sall bladder wall increases and the sac rises, stiffens, and becomes oval instead of hanging flaceld in the shape of a near. At times, the whole bladder contracts uniformly while at other times the fundus contracts to a greater degree than the rest of the organ. Contraction rings and other changes in the surface have been seen. During contraction the pressure rises to aso mm, of hile and there is a decrease of the resist ance of the sphincter In animals, bile is seen to spurt from the papills. In man, this phenomenon is exactly reproduced by the flow of bile from a duodenal tube. The expulsion of bile is sometimes assoclated with duodenal peristalsis, but the ampulla can work quite independently of the duodenal wall.

work quite independently of the duodenti wall. The law of the Intestine suggested to Meltzer the possibility of redprocal innervation of the ampula and gall bladder. All experiments opposing the theory are open to criticism. Cholecystolkini can empty the gall bladder by any of the blood stream, and denarvation experiments only confirm this effect without disproving the possibility of a double mechanism. Partial emptying of the over distended gall bladder results from elastic recoil. Duodenal movements do not cause a flow of bile, and respiration and voluntary movements do not empty the gall bladder. These facts are easily understood when it is realized that changes in present

must be common to all organs in the pressure cavity After cholecystectomy the extrahenatic ducts di late whereas, in contradistinction to the changes occurring in malienant obstruction, the intrahenatic ducts are unaffected. The dilatation of the extra hepatic ducts is dependent on the sphincter of Oddl. If the latter is destroyed there is no dilutation. After cholecystectomy the flow of bile is altered, the bile dribbling away continuously instead of coming in spurts. Mann has suggested that in the human body the sphincter also dilates and becomes incontinent. In experimental studies the pressure in the bile ducts has been found to fall from the normal range of from 160 to 170 mm. to a range of from 30 to 60 mm or even to zero. In animals without a gall bladder the flow of bile is a continuous trickle as in man and the dog after cholecystectomy. The significance of the lack of a gall bladder is unknown, but the fact that some animals have no gall bladder is no assurance that a human being is as well off without a gall bladder as with one

MERVOUS AND PHARMACOLOGICAL STIMULI

The gall bladder, sphincter and ampulls are supplied with nerves from the vagus, mainly the left, and the splanchule sympathetic. Cutting the sym mathetic fibers increases the slight phythmic contraction which permally occurs two or three times a minute in the resting gall bladder (the tones rhythm) by removing the inhibitory action of the sympathetics. Westmal related the strength of the stimping with its effects and thereby deared up the discrepancies in the results obtained by different workers. He showed that slight vagus atimulation contracts the wall bladder relaxes the arbitrater of Oddi and corner peristalsis of the ampulla whereas strong stimulation causes spage of both the call bladder and the amoulla and cessation of the bile flow Stimulation of the sympathetic relaxes the rall bladder and ampulla and contracts the sphincter These findings support the theory of reciprocal innervation of the extrahepatic biliary avatem.

nervation of the entracipantic notice; watering the process of the

z Olive oil given by duodenal tube causes a flow

of bile although it is thought to be incapable of liber ating cholecystokinin.

The duodenal contents are often highly add

without causing a flow of bile.

3. Although hydrochloric acid in the duodenum is thought to be the effective stimulus for the production of cholecystokinh in experimentally pro-

duced duodenal achlorhydria the gall bladder empties normally

In the investigations of pall bladder function is man choicyrapidgraphy and fundeaud lattust tion with the injection of oil we off were the methods employed in duodenal intubation the administration of so c.cm. of bot oilve oil is followed in a few minutes by a flow of "A or bile-duot bile. Suddenly there is a flow of "A or bile-duot bile. Suddenly there is a flow of durker "B" bile. When, during this phase, "As gr of pilocarpin is injected intravenously to stimulate the vagus the flow of "B" bile continues from the to different minutes. The bile there again becomes lighter ("C" or hepatic bile) had only in the continues of the

DISCRIPTION OF MOTILITY

In cases of both normal and absormal persons the intravenous injection of pilocarpin is followed by a periliminary sympathetic phase with tactycridia, a rise in the blood pressure, and finshing of the face, followed by a vanil phase with sweating, interhal bottonygmi, slowing of the pube, and salivation, or

causes simultaneous tachycardia, sweating, and sali ration. In the latter case the effect on the biliary enten is that of vagal stimulation. During the viril place all normal subjects show an immediate

increase in the rate of bille flow

Billary dyskinesia Aschoff and Berg conceived the possibility of a purely functional derangement with only secondary anatomical changes. sons" and insulssated bile unfortunately for many years provided a facile explanation for cases is which the cause of the disorder could not be determined. The subject of biliary dyskinesia was put on a sound basis by Westphal, who described cases in which the hypersensitivity of the vagus led to over-rapid emptying of the sall bladder or to apasm of the ampulla and complete ceasation of bile flow sho cases in which there was a predominant sym pathetic influence leading to relaxation of the gall hadder and ampulla and a spasm of the sphincter of Odd which stopped the bile flow Newman believes that these diseases are due to constitutional and ac quired factors, the disturbed nervous mechanism constituting the final path by which the causes act. He states that any division of the dyskinenas into distinct entities is artificial as there is a continuous sens of stages of departure from normality and the same case may show varying degrees of the process at different times.

The symptoms of biliary dyskinesia tend to be during whatever the type because the pain is due to distintion of the billary tract and varies in degree rather than in kind. Cases of gall-atones symptoms without stones of cholecystitis in which the gall bladder is found normal at operation hepatic neu night," and return of symptoms after cholecystec tomy are cases of biliary dyskinesia. There is no pyrents, and no occult blood is found in the stools.

Sporice distension. The motor disorder which is nost common and easiest to cure is spastic disten tion. This is more frequent in women than in men and most common at about the thirty sixth year of age. It usually occurs in persons of heavy build who have a wide costal angle and broad shoulders, but are not fat. The author's patients not of this type were dysplastics with a costal angle of about 90 de tree, narrow shoulders powerful forearms and a tendency toward marked axillary sweating. All were active bodily and mentally and some of them

described themselves as overstrung

The chief complaints are a dull and grinding pain lasting for many minutes at a time and a constant soreness. The pain is in the right upper quadrant of the abdomen. It spreads along the rib margins and becomes as severe in the left side as in the right. It tends to spread also through to the back particularly to the angle of the right scapula. It is often related to fatigue and exposure. It may come on an hour or two after meals or in the night, and may be tempofarly relieved by food. Nausca is common. Occa socially vomiting occurs with relief of the pain. A hitory of slight flatulence may be elicited. The appetite is poor and loss of weight is usual. Some-

times the loss of weight is marked. The patient may look well or very ill. Subleterus has been reported The bowels usually move more than once a day but constinution may be present and the ascending colon may be hard and tender

The tongue is clean but may be pale or flabby There is tenderness over the liver but no rigidity or catch in the breath on inspiration during palpation of the gall bladder area. In many cases examination reveals extrasystoles which are not usual in normal persons of the same average age. Cholecystography discloses only a delay in emptying Roentgenographic examination of the stomach shows it to be small horn shaped, and tonic, and to empty rapidly or with delay due to pylorospasm. The hydrochloric acid content of the gastric juice is normal or excessive. The manometer shows powerful and frequent peristaltic waves but small respiratory fluctuations On duodenal intubation oil excites a good flow of bile after from fifteen to thirty minutes Philocarpin causes an initial cessation of the flow for five min utes or less, and then a marked increase in the rate as the general symptoms pass off

The history is as important as the results of in tubation. The clinical picture of spastic distention is due to overfilling of the extrahepatic biliary system from defective emptying the expulsion of bile being prevented by spaam of the vagus-innervated ampulla. The gastric and colonic activity and the cardiac signs are also such as could be caused by overactivity of the vagus-innervated structures

The treatment of spastic distention is dietetic and medical The patient should eat small, equal and regular meals free from coarse, irritating food, and should avoid taking mixtures of fats and starches. Simple and adequate food is advisable. An ounce of olive oil, cream, or butter taken at night will replace the fats lost in the diet. The medical treatment should consist of the administration of belladonna in doses of 10 minims three times a day after meals given in a mixture of 15 gr of sodium bicarbonate to neutralize the excessive acidity and with infusion of

rhubarb as a base Atonic distention Only four cases of atonic distention have been seen by Newman. The patients were older than those with spastic distention and of a different type being alim, with narrow costal angles, sloping shoulders and poor muscular devel opment. The pain in this condition is a continuous, heaving, aching sensation. It comes on soon after meals and radiates all over the epigastrium. It is most severe in the gall-bladder area, but does not radiate through to the back. Other symptoms are anorexia, constipation flatulence, and occasional vomiting In contrast to the spastic type of disten tion, in which nauses is probably due to pyloro-spesm, there is very little nauses. The epigastrium and liver regions are tender. The stomach is atonic and baggy It shows delayed emptying contains little acid and often is free from hydrochloric acid The gastric pressure is low and without peristaltic waves, but with a wide respiratory fluctuation.

Cholecystography shows a long thin gall bladder which throws a poor stadow and empites only slightly. The duodenal fluid contains escaped bile, but the lajection of oil evolves a flow of bile order after a long delay. Pilocarpin increases the flow in mediately. The bile ducts abow little, if any dilata too, and the ampulla is not hypertrophied.

The treatment of atonic distention is not nearly so effective as that of spastic dilatation. The patient should be encouraged to eat fruits and salads. The meals should be dry Green and root vegetables, cheese milk puddings, and all doughy or sodden foods should be avoided. Tasty and appetizing food is advisable. In other respects the diet indicated is the same as that for spastic distention including the oil at night. Medicinally we lack a drug which as a sympathetic deoressor or vasus stimulant. Spiritus armorlele comp (horseradish) in a dose of 1 dr 18 useful to stimulate gastro-intestinal motflity. Oil of peppermint (from 5 to 1 m.) and menthol in 1-er pills are helpful, but other carminatives are not of much use. For the hypochlorhydria acid after meals seems to stimulate the billary system better than the alkali given before mesls. Dehydrochloric acid and the German homeopathic remedy tincture of sea thistle, are under investigation. Vinegar pickles, and acid drinks have been suggested by Brooks.

In interpreting these two major types of motor disorder it is important to realme that the gall bladder disorder is related to disorder of other moules organ—the beart stomach and colon—which have a multi-mervation. Just as the gall bladder is part of the extrahepatic bilary awatem which acts as a whole, so also dyskinesia of that system is a part of dyskinesia of many organs. In discussing theories based on such factors as thickenlog of the bile, as a structural changes, corsets, and sedenterly occupa tions, Frigeres says that the theory of neuromotor dyskinesia has made all others possibles.

The relations between the extrahepatic biliary system and other diseased organs are of interests from the points of view of both the differential diag nosis and the pathology of cholecystifts and choice lithiasis. The stomach both affects and is affected by the gail binder. Gastrie and doodenal ulcern may cause a reflex over-setavity of the biliary system as well as of the alimentary canal. This applies also to appendictis and other organic diseases. In such cases the billary dividents is not thickly to be diagnosed, but treatment of the primary cause currs the reflex discorders.

inflammation of the doodenum is the probable cause of one type of so-called catarrial jaundice cholecytitis may lead to hypertrophy of the ampulla muscle and satima has been said to be associated with spasm of the ampulla. Symptoms of gall stones commonly begin in relation to prepanery and "menstrual jaundice has been known for expregnancy and menstrual period there is a caresive initiation of the biliary apparates which often leads to some deeper of spassive distention and biliary dyskinesia is advanced as a possible explanation of the greater frequency of gall stones in women than in men.

The relation of gall-bladder and beart disorders is of interest as early coronary occlusion often produces the typical picture of and is diagnosed as, disease of the gall bladder. The converse error is less frequent. In the differential diagnosis it is of sid to remember that overactive persons likely to have spastic distention are liable also to high blood pressure Careful consideration of the history of the pain is essential. It is important to know especially whether the pain came on suddenly during exertion, like anging or gradually after exercise like the pain of biliary dyakinesia. Residual tenderness lasts for hours after an attack of angina and for days after gall-bladder disease. Another aspect of the relationship between the heart and gall bladder is the production of true cardiac disorders by gall bladder discase. These include extrasystoles and sinus arrythmia related to speatic distention, and experiment ally asystole and sinus bradycardia in response to a sudden alteration of the pressure in the gall bladder produced by a vagal reflex which can be abolished by atropine and section of the vagus. Auticular abrillation caused by cholecystitis has been reported.

A thinopharyngeal avadrome of dryness of the pharvax dry cough and dyaphagia associated with biliary dystinesia has been reported. One of the author a patients with spartle distention sought relief from symptoms which at first were thought to indicate tuberculosis of the larvax.

After cholecystectomy an unbesting fistula may result if there is spasm of the ampulla. Return of pain after the operation may also be due to biliary dyskinesis.

As Aschoff has stated, billary dyskinesia is probably due to a group of conditions acting together The Germans report its occurrence at an earlier age than that at which it usually occurs in England. Is the cases of older persons, mental and physical stress, irregular and hurried meals and other types of overstimulation seem to favor spastic distention. Unappetizing sodden food, mixtures of fats and starches, and either very hot or very cold drinks at meals lead to atony of the stomach, biliary system, and colon None of Newman a patients was hysterical, and the neuroses and neurasthenia have no relation to dyskinesia. None of the patients had or cipital beadaches, pressure in the vertex, tachycar dia precordial pain, or fears, and Newman sees no reason for escribing menopeusal symptoms to galbladder disease.

PECENTIAN AND CONCENTRATION AND

Because of the difficulty in obtaining exact information regarding the constituents of normal bilemuch is unknown concerning the abnormality of concentration and secretion in the gall bladder.

Che'esterel and bile salts Cholesterol and bile salts are treated pecuharly by an inflamed gall bladder The bit salts alone are absorbed, instead of the bile nils cholstend compound. The cholesterol is left beind and precipitates, obviously therefore con strong an important factor in stone formation. The somal ratio of bile salt to cholesterol is 18, where in cases of faceted (inflammatory) stones the ratio is 2.5 in pigment-calcium stones the ratio acoust. These facts are adequate evidence of the afainmatory origin of pacted stones and the non-inflammatory origin of pagment-calcium stones.

Bilirabia On standing bilirabin is partly oxidized is biliredin and partly precipitated in characteristic crystis, having all the physical and chemical poperties of that form of bilirabin which gives the daired vin den Bergh reaction (the hemobilirabin of Humson). These crystals are seen in postmortem bit and are present in large numbers in cases of kimochromatons pigment-calcium stone and stonic distention. They may form the starting point for the formation of pigment-calcium atones. West pail's theory of precipitation due to high concentration of bilirabin has more experimental support than charles about that precipitation is started by the biling out of heavy metals, especially copper

Priess Protein is secreted into the gall bladder of the second of the secreted into the gall bladder of the second of the second of the secreted some are built on a radially arranged protein pound structure with which the calcium is mixed in neurous proportion as development progresses, there being less protein toward the persphery

Calcium Calcium is sometimes present as a thick endson of calcium carbonate, particularly when there a obstruction of the cystic duct it is secreted by the wall, probably as the result of infection and is present in the various types of "calcium microlish which superficially resemble gall stones. The capacity of the

Faty acid: Fatty and are a normal constituent of pil-bladder bile and are found as amorphous sedl ments which are erroneously thought to be com found of other substances and to have a relation to store formation. They are of no significance.

RELATION OF DYSKINGSIA TO OTHER DISEASE PROCESSES

Static Stars is a term which has been used as a pathological explanation of gall bladder diseases with a standard star standard the sta

the gall bladder allows room for more bile to enter When concentration reaches its limit a condition of standstill results.

Distention is physiological between meals and in fasting and becomes pathological only when it is due to other causes or when it lasts too long. Its result is concentration of the bile which is pathological only when standstill occurs. It is of no importance in gall stone formation as the precipitates formed by simple concentration are resoluble in fresh liver bile whereas gall stones are insoluble in hepatic bile Therefore if the gall bladder empties even infre quently it is improbable that concentration is of any significance even in the pathogenesis of conditions other than gall stone formation. When irreversible precipitation takes place the secreted bile is abnormal as in the inflamed gall bladder and the im portant factor is not the distention but the other factor

Standstill results from continued distention by complete obstruction or by peritonitis. One gall bladder full of bile is retained without loss or addi tion through the duct. It is certain that hydrops or cholecystitis may result. It is commonly stated that standstill is a primary factor in stone formation and the mechanism is explained by two theories (1) that standstill leads to decomposition of the bile and (2) that but for standstill cells cell débris and minute stone nuclei would be washed away and have no opportunity to develop into stones. These theories are discussed in detail. Newman concludes that the concept of stasis as a factor in the formation of stones must be abandoned Therefore he does not discuss corsets, constipation sedentary habits or other factors which have long been held to be important. Standatill remains a condition for the spontaneous change of cholebilirubin to hemobilirubin and its precipitation and may therefore be a factor in the causation of those pigment-calcium stones which are not due to excessive secretion of bilirubin by the

Cholecystales Because of the use of staxis as an explanation for the cause of cholecystitis, the author discusses the relation of cholecystitis to dyskinesis. Ligation of the cystic duct causes cholecystitis, but ligation of the common duct does not. The neuromuscular dyskinesias depend on abnormality of the ampulls or sphincter and therefore correspond to ligation of the common duct However it is possible that standstill may be an important factor in some cases of cholecystitis. This is suggested by two facts (1) that symptoms of dyskinetic origin may persist after cholecystectomy performed because of chole cystitis and (2) that the crypts of Luschka are altered in dyskinetic states and then act as a portal of entry for the infecting organisms into the gall bladder wall. Cholecystitis can cause spastic distention, but in the production of cholecystitis, dyskinena cannot yet be considered as more than a con tubutory factor

Strawberry gall Wadder Strawberry gall bladder is the result of loading of the lining membranes with

hold droplets, some in the columnar cells, but most of them in histocytes in the strome of the folds. The process is one of absorption from the fille outward into the gail-haider will, and is probably the result of mild infection. The sequence would be infection, also pridos of bile asits, perceptisation of choisestend and fatty acids to form a lipoid mixture," and shorption of the lipided by the lining cells. Two other possible causes discussed are metabolic and dystinctic. Newman thinks they may contribute to the formation of strawberry gail bladder, but that in the mash the condition is the result of mild choiceruitis. The disease is not impurtant enough to warrant classification he treat?

Mieroine Patients may be close to the truth when they meek of migrains as a billows attack. Chiray and Pavel attribute it to dyskinesis, and state that it is greatly relieved by non-purgical drainage of the hile necesses. In a case studied by Newman there was an increase of blood billimbin and blood cholesterol during an attack with a fall to normal after ward. The call bladder was atonic and distended. and the cholesterol content of the bile was low These findings suggest hepatic insufficiency occur ring intermittently and accompanied by misraine The dyskinesis is not in itself the cause of the mi graine because it is continuous, while the migraine occurs only occasionally. The question to be investiguted is Does the dyskinesis lead to the intermittent the liver and biliary system the results of a common canus?

Gell since: Westphal regards billary dynthesis as the essential cause of gall stoons, citing as proof stones of pinhead size produced by ligather-induced stasis of one hundred and severaly two days densition. Newman sets only a superficial resemblance to the facted stone in the human being The latter has many morphological and chemical criteria to which the generimental stone do not conform.

Deskinesis has no relation to faceted harrel or resolvency stones. These are of inflammatory origin as proved by Naunyn, Aschoff and others. Billing-bin-calcium stones which are found in the thinwalled ectatic sall bladders corresponding to atopic distention are probably due to the dyskinesis. The laminated type may be due to the same cause Other stones of the same kind, found in hemochinmatoria and acholoric jaundice, are of metabolic origin. The nost white calcium carbonate stoces re sult from cyatic duct obstruction not of dyskinetic origin, while the hand, exceptsh stones contain much conner and are probably related to the metabolic pigment calcium stones. The cholesterol solitaire is not related to dyskinesis. The formation of earthy stones in the common duct and round foreign bodies rendres infection as a contributory factor and are ambably not affected by dyakmeds

Billary dyskinesis is of clinical importance, offer ing an explanation of and suggesting treatment for cases unrelieved by the usual procedures, but it should not be loosely used as an explanation of other disease processes with which it has no connection.

E. S. PLATE M.D.

GYNECOLOGY

UTERUS

Tenda, E.: Statistical Investigation of Uterine Myoms Jay J Obst & Gynec 1933 Xvi 84.

The report is based on 441 cases of uterine myoma The youngest subject was eighteen years old, and the oldest, seventy two The average age was forty and nine tenths years. Forty-one and five tenths per cent of the patients were between forty and alty years of age 33 3 per cent were between thirty and forty and 12.7 per cent were between twenty and thirty

Four hundred and nineteen (95 per cent) of the att women were married. Of these, 162 (38 7 per cent) were sterile and 256 (61 per cent) had been pregnant. Of the latter 33 per cent had had I child and 66 per cent had had more than 1 child. The average number of pregnancies was 3 The incidence of myoma in the pregnancies was only 0.48 per cent.

The frequency of the different types of myoma vas as follows interstitial, 54.0 per cent subscrous \$3.5 per cent mixed 3.4 per cent, interstitual subserous, 2.0 per cent interstitial submucous 0.4 per emi, and submucous, 2.4 per cent.

In the majority of the cases the myoma was in the corpus of the uterus. The incidence of cervicul

myoma was 9.6 per cent.

The youngest age of appearance of the menses was twelve years and six months and the oldest twenty years. The average age was fifteen and twotrails years. The youngest age of occurrence of the menopause was thirty-eight years the oldest, filly-two years and the average forty-seven and eight-tenths years.

The menstrual flow was profuse in 30 1 per cent of the cases, moderate in 51 2 per cent and small in 127 per cent. The duration of menstruation naged from two days to fifteen days and aver

aged three and eight-tenths days.

Dysmenorthes occurred in 56 per cent of the an

Metrorrhagia occurred in 9x (20 6 per cent) and menorrhagia in 26 (5.9 per cent)

Occasionally cancer was found complicating the myons. As a rule the cancer was in the cervix. In 16.1 per cent of the cases the myoma was accompanied by adnexal changes. In 0.5 per cent the changes were in the overy and in 6 5 per cent in the fallopian tubes

ADNEIAL AND PERIUTERINE CONDITIONS

MAX C. EMRLICH, M D

Goods J. R.: Some Aspects of Overlan Dysfunc tion. J Obst. & Gynec Beit Emp., 1933 xi, 640

Refore discussing ovarian dyafunction the author tries the physiology of the ovaries and uterus

He characterizes the development of the ovum and its liberation from the ovary as a true labor in which the membrana granulosa corresponds to the decidus vera, the reflected discus proligerus to the decidua reflexs and the basal portion below the egg to the decidua serotina After the expulsion of the egg there remain portions of the membrana granulosa from which the corpus luteum is developed. The regressive changes about the corpus luteum have been shown to be similar in every respect to the changes that take place in the wall of the uterus after parturition The developing ovum evokes two or more secretions first a follicular secretion con tained in the liquor of the follicle and second the lutein secretion Disturbances in the interrelation of ovulation folliculin and lutein may take place with climical consequences which are not always clearly understood.

The function of the ovaries is related most in timately to that of the anterior lobe of the pituitary gland, the thyroid gland, and the parathyroids The anterior lobe of the pituitary gland is the moti vator or regulator of the ovary It can act as a whip or a drag on oversan function. The thyroid acts more intimately on the ovary and by direct cor poreal cellular stimulation or inhibition. Thyroid insufficiency leads to ovarian insufficiency only in cidentally and vice versa, and the bursts of cellular activity incident to puberty and pregnancy find a corresponding and synchronous awakening of thy rold elaboration. If the thyrold reserve is normal it will respond to the extra demands, but in families with giandular instability the response to excessive demands may lead to permanent over-activity or to enlargement followed by fatigue and permanent This is true also of the adrenals. insufficiency Perfect health therefore requires a normal reserve in each gland. When the reserve is insufficient, neurasthenia with variable syndromes is prone to develop. The syndromes may be cardiac vasomotor cerebral pelvic, or locomotor They may also be multiple.

Ovarian dysfunction is manifested by a disturbance of the normal rhythm of the menatrual phases, pain at menstruation, sterility and disturbance of the primary and secondary sex characters. Most of the errors that have brought endocrine treatment into disfavor have been due to a wrong interpreta tion of symptoms, an incorrect diagnosis or in sufficient knowledge of the attributes of the remedial agents The difficulties of diagnosis are greatest in the cases of early glandular dysfunction but the results of treatment are best in these cases. The early states of ovarian dysfunction may be mani fested by amenorrhosa menorrhagia or metror rhagis.

In conclusion the author gives a brief review of the treatment of ovarian dysinaction with endocrine products.

HARRY W. FIRE, M. D.

EXTERNAL GENITALIA

Delporte, F., and Cahen, J.: A Contribution to the Study of the Combined Radiological and Surgical Treatment of Epithelbornsta of the Vulva and Urestira (Contribution à l'atude du traitment radio-chiruspoal des épithélbomas de la vulva et de l'urien). J is chir. 1933, xil. 501.

In a period of ten years the authors have treated twenty five cases of valvar cardnoma, including five cases with involvement of the urinary meatus or the urethra. A review of the literature shows clearly that a uniformly satisfactory method of treatment has not as vet been devised. \ ulvar carcinomata are so malignant that surgical or radiological treatment alone has proved desappointing. However the primany neoplasm is usually quite radiosensitive and disappears under the action of radium. The chief obstacles to surelcal or irradiation treatment are lymphatic extensions which do not respond so readily. Treatment is rendered difficult also by the rich lymphatic network in the involved region with its susceptibility to infection, the resistance of adenonathies, and the necessity of maintaining adequate function of the impaired urethra. The lymphatics of the vulve are described in detail. The irradiation of the tumor and of the lymphatics abould preferably be performed at the same time. The combined radiological and surgical treatment recommended by the authors comprises the following procedures

- r Simultaneous irradiation of the primary tumor and the inguinocrural lumphatics.
- 2 Total vulvectomy after distrization of the vulver lealons has occurred.
- 3. Removal of the lymph nodes on each side if they appear to be or are suspected to be Involved. Because of the stadiest nature of the operation and the exposure of large surfaces, infection is frequent. However as the danger of recurrence is greatly decreased by the procedure the authors plan to use it more frequently in the future despite the risks of infection.

The redum is applied by means of needles containing 0.6 for 1,30 mgm of reddim element which are inserted at the borders of the neoplasm and into the tumor itself under local annesthesia. Small tramoer require daily doose of from 1 to 2 med, and large neoplasms, daily doese of from 4 to med. The duration of the treatment varies from four to ten the presence of the contraction of the contraction.

In cardnome of the ureline treatment with reincident predict is contra-indicated a traumatization of the ureline and fistule may result. The radium should be applied to the ureline by means of tubes containing to mgm. of radium dement filtered with a -mm. gold-platiums filter and held against the anticion vaginal wall by a gause pack in the vagina. Two or three tubes are usually used, a total dompe of as 6 med. being given at the rate of 3.6 med. daily over a period of six days.

The application of radium often results in complete macroscopic and microscopic disappearance of the peoplesm. When the lymph glands appear nor mal they are treated by deep \ ray therapy (4,000 r on each side) or by means of a belt containing romgm radium-element tubes 4 or 5 cm. apart and placed 4 or 5 cm. above the skin. This treatment is carried out over a period of eleven days, a total of ros med being given. Lymph nodes clinically invaded are treated in the same manner and are removed surgically six weeks after the irradiation if the patient's condition permits. In the opinion of the authors, radium irraduation is more efficient than deep \ ray irradiation. Adenopathies are more radioresistant than the primary tumors. When the lymph glands are adherent only \ ray or radium therapy is attempted as surgical treatment is useless and, because of the presence of infection, is seldon followed by healing. The prognosis is not improved by surgery at this stage.

Vulverious is performed as soon as clarification has followed the application of radium. The technique is described in detail. Removal of the lymphatics is done later, when the patient has recurred from the effects of the vulverious. The author reviews the histories of twenty five patients, twenty four of whom have been under observation for more than one year. A permanent cure was obtained is seven (so nor cont). Hangon C. Macx, M.D.

MISCELLANEOUS

Jayle, F and Jayle G E.: The Paivic Innervation in the Female Anatomy and Histology (L'innervation pelvienns ches la femme) Res Jose, de grafe et d'eist., 1913. vvill, 563

The authors present a rather exhaustive report on the histology and anatomy of the nervous apparatus of the genital system of the female and conclude the article with a discussion of the pathology of the pain phenomenon.

The nervous apparatus of the female genital system is derived from two sources (7) somatic branches from the lumbar sacral, pudendid and coccupied plemines and (2) sympathetic branches from the pelvic visceral gangila and the nerves of the abdominopelvic sympathetic system.

In discussing the medicasurgical automy of the somatic nerves of the pential system, the authors state that the pelvis and genital region receive their somatic nerve supply from the four plexuses mea though in addition to posterior branches from the fifth and start nearal nerves. Because of their situation and ultimate distribution the posteriols are cocypreal plexuses are exclusively pelviperineal. The lumbar piecus and the sacral piecus, destined sestinally to innervate the lower extremities, frushis only accessory pelviperineal branches. The formation and the ultimate distribution of each of these piec

mes are shown by diagrams and are described in detail with particular emphasis on peripheral dis-

tribution and surgical accessibility

The organoveretative or sympathetic nervous system of the female pelvis is composed of two biliteral elementary formations with different destinations which are relatively autonomous (1) the tuborarian system which supplies the tubes and ovation, and (3) the pelvic prayan and the performant and the principals and the performant and the performant and the performant and the performant.

The authors discuss the formation and distribution of these systems, review the theories advanced to replan the histology of the afferent and efferent components, and call attention to the surgical ac

combility of the sympathetic system

To explain the mechanism of vasceral pain in gencal two theories have been presented (1) the theory of Lennarder according to which the vascera are issentitive, only the peritoneum is sensitive and all pain within the peritoneal cavity is provoked by pentoneal limitation and (2) the theory of Head and key according to which pain termed protopathic pain which is provoked by direct excitation of the sympathetic contained in the viscera, occurs in addition to 'reflex pains which are referred to a cottaneous region.

On the baris of the findings of their anatomical studies the authors suggest the following clinical classification of the pains associated with lesions of the female genital system (1) peritoneal pain (2) certain pain (3) cellular pain (4) pain from compresson or direct or indirect irritation and (5) central or system pain. They discuss each of these types separately and cite clinical and experimental cridence in support of the classification.

GEORGE C FINOLA M D

Kiffer H. The Physiology of the Genital Nerrous System in the Fernale (Physiologic du system herver smital chez la femme) Rev franç de gyaéc d frin, 1933 xxviii 440

By means of a schematic drawing the author borst that the female genital system is innervated by the cerebroupinal nerves and the sympathetic serves system in describing the course of the serve leads attention to the nerve endings. The serve endings are interspersed with groups of chromatin cells which in both their physical and their chemical character resemble suppraenal cells. To the chemical character resemble suppraenal cells. To the chemical character resemble suppraenal cells. To the chemical character resemble suppraenal cells. To the capacital shandant in the uterine musculature it he junction of the uterus with the broad light semant, in the cervical sphincter and in the deeper hyer of the vaginal walls. The term phecofrome speciality is regarded with several sphincter with the procedure of the genital system has been applied to this network.

The typer of irritation capable of stimulating uter be contraction are (1) cutaneous excitation, (2) catral and peripheral excitation (3) excitation of the parietal and visceral peritoneum (4) central and pemberal excitation of the vagus nerve (5) excitation of the pelvic organs, intestines and bladder and

(6) direct excitation at any point along the genital tract itself. Proof of the action of each type is cited

Following a review of the literature on the effect of the abolition of one or both sources of nerve supply to the genitalia the author discusses the results of Canonne's experiment in which the eradication of both systems of uterine innervation had no deleterious effects on pregnancy parturation lactation or involution From Canonne's findings authorities conclude that the uterus must possess an autonomic function of its own Whether this function is due to the ganglia apparatus described or the activity of the muscle fiber cells proper is still unknown. The au thor believes that the ganglia apparatus is respon sible In support of his opinion he presents confirms tory experimental evidence and photomicrographs showing the so-called sensorial corpuscles.

In conclusion Keiffer suggests that the normal function of the pheochrome apparatus of the uterus is probably one source of painless contraction of the uterus, and that any anatomical or functional deviation of the apparatus may possibly explain a certain number of cases which otherwise could not be explained. GROOK OF FROMA M.D.

Dougy E. and Colaneri \ Abdominopelvic Pains (Les douleurs abdominopelviennes) Res franç de gynte et d'obst 1933 xxviii 483

The authors divide gynecological pains into the following four types

r Acute abdominopelvic pains. These are usually associated with affections of the pelvic organs which frequently demand immediate operative interference such as extra-uterine pregnancy twisted to more pedicles intestinal obstruction of pelvic origin, and generalized peritonitis of pelvic origin. The various aspects (mechanism, diagnostic value onset seventy) of the pains in each of these conditions are discussed in detail.

2 Spontaneous abdominopelvic pains. These are characterized particularly by their rhythmic oc currence with the cycle of ovulation. Accordingly they are divided into the intermenstrual premen strual menstrual and postmenstrual pains and sec ondary pains from involvement of neighboring or gans such as the appendix The intermenstrual pains are explained by the author on the basis of the con gestion associated with ovulation which occasionally (in 5 per cent of cases according to Binet) becomes pathological The premenstrual pains are attributed to a disturbance of function of the overy rule they are transient. Those which persist or recur repeatedly each month are attributed by the authors to sclerocystic overies. The mechanism clinical findings, and medical and surgical treatment are discussed. The menstrual pains (dysmenorrhora) are explained by lesions of the genital organs clots from functional bleeding associated genital disease, stenous of the cervix, or the effects of endocrine The postmenstrual pains are believed influences by the authors to be due most frequently to in flammatory processes of the adnexa.

Permanent pains. Permanent pains are doarribed as a dull ache or a sensation of heaviness or weight in the neight. They are namedly continuous From the clinical point of view they may be di virted into those of inflammators origin and those originating from nebula consession.

2. Provoked pains. These pains are provoked by nelration or manipulation. They are of great aid in establishing the diagnosis. A number of lesions along the genital tract in which pain may be elicited by ratuation are discussed in detail.

Grown C From a M D

Leffont, A. The Extremelyic Pains in General relical Affections :Les douleurs ettra-pelviennes dans les affections eviperologiques) Res I say de reste el ber all worth cen

In the course of atero-adnexal affections it is not programon for pain to occur at a considerable distance from the original lesion in the nelvis. The most freement locations of such pain are the thoracic, the scapulohameral, and the cerviconnehal regions Pain of this t pe has been designated as elevated or referred ogin. It may be a manifestation of one or the other of the following twom of armosthetic

re even s Dermalgues analogous to the visceral der matomes described by Head, which are character red by a coverficial localization such as the enrises of the body over the scapular thoracic, nuchal, or

brachial region.

Increalglas, which are characterized by their deep localization over the thoracic or upper abdominal viscera. These pains may be so pronounced as to lead to an erroneous disenous. Some author ities have gone so far as to say that all women presenting themselves with pain in the upper part of the abdomen should be subjected to a vaginal examination Localization of the so-called referred pains may occur over the organs named on the same or the opposite side

A classical example of the referred pain described is the referred pain of ruptured ectopic pregnancy which may occur in any of the sites mentioned. For the latter there are two routes of conduction (t) a cerebrospinal route from subdisphraematic inun dations, and (1) a sympathetic route from spills

limited to the pelvis.

In subdianhragmatic or peritoneal immedations the referred pain is due to irritation of the diaphraem by blood or gas (tubal insuffiction) which has found its way to the subdisphragmatic region. As the phrenic nerve especially on the right side, gives off branches to the subdisphragmatic peritoneum, any irritation of these fibers is conducted along its course to its common origin with the subclavirular and subscromial branches of the superficial cervical pleans and is transmitted to areas innervated by the

Thoracic pain due to spills limited to the is a reflex pain from peritoncal irritation of the hypographic pleases and pressoral person by your of the soler relevant to the cord and thence to the house metal necess

A third trute of conduction in cases of adversilesions without spill has been the cause of consider able controverse in the literature with regard to the outhorenesis of referred pain. Lenmander believes that in cases in which the lesions are limited to the viscers alone, the atlanting occurs by way of the most perves innervating the scross whereas Lemaire is of the opinion that, as the sympathetics somis the visceral peritoneum as well as the panetal peritoneom, the stimplus is a sympathetic stimples through the visceral peritoneum. The author he lieves that distention due to encarenisted or intracreatic bemorehave or inflammatory processes blave a dominant rile in the capsation of this tale. Stanca has reported cases of shoulder main following ligation of the tubes for sterilization

German C. France M.D.

Zimmern, A., Vetter, L., and Pecker, A.: Physictherapy of Pain in Gyzecology (Parsicibrapie de la douleur en gynecologie) Ret franç de gratide da ou xtvill, 607

The authors discuss the present status of physictherapy in the treatment of gynecological pain. Physiotherapy and kinesitherapy (massage and gymnastic exercises) are distinctly beneficial in chronic and subscute cases and of value to a less ex

tent in sente cress

The galvanic and faradic currents, diathermy in frared fight, olders volet light V rave, radium, and emanotherapy are discussed, and the technique of their application is described in detail. The highfrequency current is the most precise physiotherspentic agent for the treatment of graceological aches and pains.

The effects of physiotherapy in different types of gynecological conditions are summarized as follows

L. Ducases of the rulys. Pruritis of unknown cause has been successfully treated by superficial radiotherapy and variaitie of unknown cross by faradism.

s Diseases of the uterus. Obstructive dramesor rhora has yielded to electrolytic dilutation carlo cervicitis, to disthermocoagulation and the bleeding associated with fibroids, to curietherapy Ra dium finds its chief indication in uterine carcinoma.

 Diseases of the adoesa. Sulpingo-obphoritis responds well to hyperpyrema. Therefore any agent capable of increasing the local temperature may be

of value in its treatment.

The relief of pain by kinesitherapy (massage) has been attributed to (t) relief of congression by active dilatation of the blood and lymphatic resects, (1) the mechanical correction of minor displacements, and (3) a direct action on the sympathetics which diminishes the hyperexcitability of these serves

rations for massage are old chronic infec Tb+ accompanied by pale, post tions tion cellulitie, and pelvic opera

membras. The contra-indications are almost absoble. They are mall-maint tumors, recent blood real some policy and generalized pentonitis, encysed pos, benign liquid tumors which cannot be examined (dermodus) and torsion and tuberculosis of the sidems.

The technique of various types of massage is de sched. In the authors' opinion, the bimanual meth

of me best.

Living cases treatment by posture is of value.

George C. Frond, M.D.

Fill, G.: Retroperitoneal and Mesenteric Tumors in Gracology (Retroperitoneale und mesenteriale Geschwedste in der Frauenheilkunde) Ortori keil., 1933, p. 27

Hentibroperated upon three cases of retropen treal innor. In two cases a diagnosts of ovanza treal more in two cases a diagnosts of ovanza treat was made although a retroperitioneal tumor as argusted. In one case the tumor was discovered for weeks after delivery. It had been infected by the borse physician who punctured it several trea during the delivery. The three tumors were expectively an enterocystoma, an endothelial cyst, did a myndipoma. They were all removed by hyantomy and the patients recovered. The opera

tions were performed respectively under pernocton ether anasthesia local anasthesia, and spinal anasthesia. The myxolipoma was of enormous size and weighed to kgm.

The pathology and diagnosis of such tumors are discussed. Retropentoneal tumors occur twice as often in women as in men. Supprising are the eacher tic appearance of the patients and the tendency of the tumors to recur in spite of their instologically benign appearance. Gastine and unnary tract disturbances are common because of pressure. The tumors are only slightly mobile, and as a rule the colon can be felt over them. In spite of these characteristics the tumors are easily confused with over rana and renal neoplasms and the correct diagnosis is often not made until laparotomy is performed. The diagnosis is still further complicated if the growth suppurates, undergoes necrosis or is infilitrated by hemorrhage.

The only treatment is operation. This is very difficult and has a mortality of ~ or 8 per cent. In the removal of the tumor the large vessels ureters and sympathetic nerve are endangered. Because of the severity of the operation and the length of time it requires local or spinal anesthesia is preferable to general anasthesia.

ORSTETRICS

DECEMBER AND ITS COMPLICATIONS

Bishon P M F The Friedman Test for Pres mency Guy Hast Ret Lond, 1011, ixxeli, 103

Blahon analyzes the results of a year a experience with the Friedman test for pregnancy and suggests.

a modification of this test

The biological tests for pregnancy provide a means of discrement presmants with certainty as early as a month after concention. They are therefore of one cual value in discuses, such as advanced tuberculosis in which presmancy is contra-indicated and its ter mination is marifiable. They facilitate the differen rial diagnosis between pelvic tumors and early pregnancy and between a ruptured extra-uterine sestation and other varieties of nel ac tumor and they confirm the diagnosts of hydriform mole and charionem the home

Methods of diagnosing pregnancy which are based on changes in the generative tract of laboratory animals were first introduced by Aschberm and Zondek. These tests show the dependence of the overy on the secretion of a hormone from the ente rior lobe of the pituitary body and the presence of this hormone in the blood and urine of preenant

women.

In the Aschheum-Zondek test early morning prine is miected subcutaneously into immature female mice in 6 doses of 0 4 c cm each The injections are siven twice daily and the animals killed one hundred hours after the first injection. The reactions obtained are as follows

I Maturation of the follicles and ovulation assocusted with hypersemis of the tubular tract

a Harmorrhage into enlarged follicles, or corpora hemorrhanca

t. The formation of normal corpora lates or of corpora lutes atretics in which the unliberated owim is found embedded in lutes) tissue

In 2,168 cases reported by 13 observers, Robertson found the incidence of error of the Aschheim-Zondek

test to be 1.47 per cent

The Siddall test is based upon the increase in weight of the genital tract produced by the action of cestrin. Twenty five cubic centimeters of the retient a blood are withdrawn from a vein and r c.cm. of the supernatant serum is injected into each of z immature female white mice daily for four or five days or until cestrus has been induced, as shown by vaginal smears. The mice are killed on the following day and the uterus and ovaries weighed on a delicate acule. The most obvious drawback to this test is the necessity of obtaining blood from the patient. The Siddall test has all of the disadvantages of the Aschheim-Zondek test without the accuracy of the latter In 164 cases Mazer obtained false negative reactions in 24 per cent and false noditive reactions in 17 per

The cestrin test of Mayer and Hoffman depends on the production of costras in costrated female mice by the injection of the prine of the present woman. (Estrus can be detected by the vasinal technique of Allen and Doiry. The results show this test to be less sensitive than the Aschbelm-Zondek and Friedman tests. Mazer obtained false negative results in as per cent of a to cases of pregnancy and false postive results in a siner cent of also cases in which neer nancs was absent

In 1011 Friedman and Lapham modified the Aschbern Zondek test, using rabbits as the test and male. As the effect usually occurs within twenty four hours, a result may be obtained much more

ranidly in the case of the Erledman test.

Of the 4 pregnancy tests, the Siddall test seems to be the least accounts. The Aschheim-Zondek test. when carried out skillfully is remarkably accurate, but occasionally gives a false result because of excessive secretion of prolan in the urine at the mesopause and in other conditions not associated with presnancy. The Siddall test is the least practical of the tests. The Friedman test is the most practical as it requires only a sexually mature rabbit whereas the other tests require colonies of mice. In the Fried man test only 1 or 2 prine injections are occessive Ten cubic centimeters of urine are injected into the marginal car vein of the rabbit. The presence of corpora harmorrhagica in the ovaries indicates a positive reaction

In experimental studies of the various tests for pregnancy the Friedman test was carried out by three methods. The third method was designed to exclude the sources of error of the first method. It was exactly the same as the first except that a prelimmary laparotomy was performed in order to prove the absence of corpora hemorrhagica before the injection of urine. In the entire series of tests

there were no incorrect results.

The active principle in the urine on which the Friedman test is based remains notent for at least six days after the prine has been voided.

The Friedman test is positive as early as twentyone days after conception and becomes negative between forty two and forty-eight hours after parter-

The blood from the umbilical cord does not give a positive reaction.

In the rabbit, mechanical stimulation of the uter ine cervix tends to produce fresh corpora lutes whereas injection of the urine of pregnancy almost

invariably produces corpora hemorrhagica. Cerebrospanal fluid obtained from a pregnant woman does not produce a positive reactionIn a case of chononepathelioma the equivalent of 1/300 ccm, of urine may produce a positive reaction. When a pregnant rabbit is used as the test animal the result may be relied upon if it is positive, but the

test should be repeated if the result is negative
In cases of pituitary disorder the urine may con
tun an excess of prolan. Max C Empirer. M D

tun an excess of prolan. Max C Empirer, M D

Bernhard, E.: The Increase of Tubal Pregnancy and Its Causes (Ueber die Zunahme der Tubar grwidstet und ihre Ursachen) Zischr f Gebarish g Gracik 1933 cv 46

The author reviews more than 750 cases of tubal pregnancy which were treated at the gynecological and surgical clinics of Basel in the period from 1896

to 1930, inclusive.

The absolute increase of tubal pregnancy after 185 was about fourfold. However it is necessary to compare this increase with the census figures. As the rural population is divided into many small districts and therefore cannot be easily included in the figures from the city clinics the author discusses only the cases of patients coming from the dry districts. It is interesting to note that up to 1964 about 50 per cent of all cases of tubal pregnancy were given conservative treatment, and that during the fifteen year period only 4 patients died and these had been subjected to operation

It cannot be dealed that improved diagnosis accounts for some of the increase in the number of cases of tubal pregnancy. Even today, the cause of the condition is often obscure although the incidence of unexplained cases has been decreased from about so to about so per cent. That the increase of tubal pregnancy cannot be ascribed merely to the increase in the population is demonstrated by a graph which shows the increase of tubal pregnancy by an irregularly agged curve and the increase in the population by a flat curve tending down toward the zero line.

The author discusses the individual causes of tubel regarders to determine the reason for the increase leavement in the reason for the increase leavement in the increase leavement of the single case, but to a multiplicity of causes. Of chief in portance are the increase of morbidity due to gonor that and the greater frequency of aborton. Other important factors are the increase in the use of contracptive methods and the increase in the incidence of common inflammantory processes including chronic spreaductis. Benigm and malignant tumors of the tubes, tuberculous sapingatis hypoplasia of the genitalia and accurace of the sympathetic system may lead to tubal pregnancy but have no relation to the larresse of the condition.

Fromwort (G)

LABOR AND ITS COMPLICATIONS

Blair Bell, W., Datnow M. M. and Jeffcoate T. N. A.: The Mechanism of Uterine Action and its Disorders. J. Obst. & Gynec Bril. Emp. 1933, 21, 541

The authors review the theories of the mechanism of uterms action and its disorders from ancient times

up to the present Hippocrates assumption that the fetus leaves the uterus because of an insufficiency of nutriment cannot today be deemed wide of the mark Brown Sequard who appears to have been the first to perform experimental work on the subject, concluded that the uterine musculature in ani mals becomes more irritable as pregnancy progresses and that labor is initiated by an excess of carbon dioxide in the maternal blood. The present century will go down in history as the era of the demonstra tion of the internal secretions and their relation to the onset of labor. The authors have classified the factors concerned in the contraction of uterine muscle and the disorders related thereto. The gen eral conditions associated with and governing nor mal uterine contractions are considered including the anatomy and physiology of the musculature the innervation of the uterus and the constituents of the blood.

The determination of pregnancy and the onset of labor appear to be related to factors which may be described as predisposing and exciting the former representing the changed fetal requirements with the related changes in the placenta and fetal excre tions and the latter the factors which excite or precipitate expulsive contractions of the uterine musculature in order that the physiological demands of the fetus may be met by a change in its environ ment. There are two possible aspects of this rela tionship namely the mechanical and the chemical From the mechanical aspect it is evident that at term the fetus with its membranes having lost some of its symbiotic affinities may resemble a for eign body or an intra uterine polyp which under goes extrusion and possibly expulsion even though its vascular connections are not at first severed. The predisposing chemical disturbances at term may represent either the removal of a fetal inhibitory hormone or the elaboration by the fetus of an agent sensitizing or stimulating uterine contractions Therefore the factors which terminate intra uterine life, though indefinite are certainly related to the nutrimental needs of the growing child as was postulated by Hippocrates

The experimental methods are described

The conclusions drawn with regard to the ovarian secretions are as follows

- I The hormone of the corpus luteum (progestin) inhibits the activity of uterine muscle and leads to changes in the endometrium and possibly also in the vaginal secretion mensituation, and gestation. In most animals in which a true placental attachment occurs the yellow body appears to be required for the continuance of pregnancy until a late period but in the human subject it is necessary for only a few weeks
- 2 Hormones of the anterior lobe of the pituitary gland assist and may even replace progestin in in hibiting the motility of the uterine musculature during pregnancy
- 3 The follicular hormone (cestrin folliculin) in pure form has no effect on the isolated uterus and no

immediate action on the uterus is was Similar negative results were obtained with Antuitrin S.

4 Æstrin produces its effects on the uterine musculature, especially in prepanery, in three ways (a) by causing hypertrophy of the muscle fibers, (b) by sensitizing the muscle of nerve elements and (c) by simulating the production of infundibution

The supposed reproductive hormones of the anterior lobe of the pituitary gland which are obtained from the urise of premant women are discussed and

their effects described

The action of the bormones of the posterior lobe of the pitultary gland (infundibulin) are discussed with regard to the possibility of sensitization and the cormal responses of the uterine musculature. The question as to whether or not infundibulin is rapidly excepted or destroyed in considered.

The actions on uterine muscle of the separate fractions of infundibulis—vasopressis and oxytochem-are shown not to correspond to those implied by the respective names of the fractions. On the uterus of the guines pip is see and is vilve printin itself was found to have a greater tonic effect than either of its fractions, and pitressin was found to have a stimulating effect which is almost as great as that of reliction.

Experiments abowing the effect of calcium, potassium, and magnesium on the activity of uterine musicle are described. Calcium salts in an optimum amount are essential for uterine motility. Magnesium salts inhibit uterine activity.

Evidence is adduced to show that the onset of labor is associated with an excess of cestrin in the maternal circulation.

maternal circulation.

The clinical application of the experimental findinstant discussed briefly in relation to

r Abortion, in which the presence of an excess of cestrin is of diagnostic and prognostic importance.

s Premature and postmature labor

3 Precipitate labor

4. Involution

5 Pathological uterine inertia. It is suggested that in the absence of pathological lesions in the uterus this condition is due to insufficiency of pressor substances, such as infundibulm and calcium salts, in the maternal blood. Uterine inertia is associated with a reduced blood pressure.

6. Tonic contraction The view is expressed that when there is an optimum or an excessive amount of pressor nubstances in the maternal blood stream in cases of obstruction to the progress of labor which cannot be overcome the contractions may become testail in nature. Hazary V Prr. M.D.

Van Rooy A. H. M. J.; An Investigation on Dry Labor J. Ohn & Gymec Brd. Emp. 1933 xl, 850.

In a review of 15,843 cases of childbirth on the Obstetrical Service of the University of Amsterdam in the period from 1911 to 1911 the author found that the membranes ruptured apontaneously before the beginning of labor in 0.83 per cent of the primingree and 1 25 per cent of the multiparts. If the

conception of dry labor is extended to include cases of spontaneous rupture of the membranes before the segmning of labor pains and before diffarition reached 3 or 4 cm. the frequency of dry labor was 0.40 per cent.

In the cases of dry labor the labor was definitely prolonaged, clindfy in the cases of primipages. Artificial aid was necessary more frequently but one tracted pelvis, which was present in fully half the cases, was partly responsible. The national not callify thorest no change, but the fetal mortality was increased especially when artificial aid was necessary. The maternal mortality was increased objectively when artificial aid was necessary. The maternal mortality was increased only alightly chilefly in cases in which artificial aid was included.

The author concludes that dry labor is an unfavorable complication, and that artificial aid and premature interference endanger the life of the child

DIFFERENTIAL AND ITS COMPLICATIONS

Stafancaik, S.: Extragenital Metastases in Fuer peral Fever (Die extragenitalen Metastases bei Puerperalfieber) Orsail kall., 1932 p. 1057

In the clinical course of puerperal sensis the appearance of metastases usually signifies a very paiavorable turning point. In the material of the First Generalogical Clinic of Vienna for the last ten your the author found elepteen cases in which extra genital metastages were demonstrated and the pa tient succumbed to the infection. In the majority of the cases the metastases occurred in several organs simultaneously and were not recognized at all or were recognized only in part during life. In most instances the lungs were special sites of the secondary bacterial localization. Autonay disclosed lung abscesses in ten cases. The frequency of pulmonary involvement is explained by the anatomical conditions, as thrombi lodged in the venz cave are disseminated by the venous and lymphatic circula tion. From the infarct formed in this way a hore abscess is formed when pathogenic bacteria are present. Ultimately the bacteria reach the left ventrical by way of the pulmonary vein and enter the general circulation. As a further consequence, aboress formation occurs in the other vital organs Of the infected thrombi which entered the general circulation primarily seven lodged in the kidneys and two in the spleen. Obviously in these cases also there was a combination of metastases in various organs. Altogether autopsy disclosed combined metastases in sixteen cases. In only two were the extragenital metastases limited to a single organ,

namely the lung.

On account of the difficulties in the diagnosis of extragential metastases the author believes that is every definitely established case of purperal separations as thorough daily examination about he made with special regard to akine canthenats and charges is the vital organs, as only by such careful examination will it be possible to determine the presence of

metastases which have not caused subjective symptoms. From the standpoint of therapy the early recognition of such metastases is of extreme im portance.

E. GOLDREGOER (G)

MISCRLLANROUS

Rosenstein, W. The Significance of the Aachhelm Zondek Reaction in the Indications for Treat ment Following Hydatid Mole (Die Bedeutung der Aachhelm Zondekschen Reaktion fuer die In distionatellung nach Blasenmole) Arch f Grack, 1933 cill, 350.

The suthor reports on a case of chorionepithelioms fellowing a bydatid mole in which the Aschheim Looder reaction was negative during the interval. The patient was a twenty-eight year-old woman from whom a bydatid mole was removed January 12 1913. The next day the Aschheim Zonder reaction was definitely positive. The patient was dishariged from the hospital on January 23. On February 6 certiage was done because of hemorrhage. The Aschheim-Zonder reaction was then negative. On April 9 curettage was repeated because of bleeding The himological diagnosis was negative for chorion

epithelioms but the Aschheim Zondek reaction was positive two of the five mice showing typical corpora lutea. On April 29 total vaginal extirpation of the uterus with removal of the right adnexa was done. The right tube presented a small nodular swelling which on histological examination was found to be a chorionepithelioma. Aschheim Zondek tests carried out on April 24 May 11 June 18 June 30 and July 21 were all positive. On July 23 a pulmonary metastasis was discovered.

Especially noteworthy in this case was the fact that during the period between the removal of the hydatid mole and the appearance of the chononepi thehoms there was at one time a negative phase in the hormone secretion. From this fact it is apparent that when the removal of a hydatid mole is followed by a negative Aschheim Zondek reaction the urine tests should be repeated at intervals of four weeks for a period of three months. Only when the findings remain negative during that time can the patient be regarded as clinically cured. The author concludes also that when the Aschheim Zondek reaction remains positive longer than four weeks following an operation for chorionepithelioma a recurrence is to E. PHILIPP (G) be expected.

many cases there is a marked disproportion between the size of the lexion and the retention produced.

Recently the diagnosis has been facilitated by a combination of utethrocystoscopy and utethroe raphy and the surgical treatment has been considers by simplified by electrosurgery. The principal nathologico-anatomical characteristic of the lesions to be emphasized is the usual disproportion between the size of the opening of the diverticulum into the prostatic prethra and the size of the sac. As a min the orificial canal is so parrow in proportion to the directionlym proper that retention and stagnation occur. Therefore treatment must be directed toward widening the orifice. The size of the base or sac of the diverticulum varies from that of a ninbead to that of a neune. The sacs may be single or multiple. Their shape is commonly that of a hunch of grapes. but may be most irresular resembling that of an outrich plume. Their site and direction may also vary. The diverticulum may be in the median saxit tel or transverse plans of between the two. There fore both front and bilateral profile exposures should be taken in the urethrographic examination

For satisfactory therapeutic results an exact and complete diagnosis is essential. A single diverticulum remaining ignored and left to persist will result in failure of the treatment. The reentgen examina too is carried out best with the use of the radiosurgical table devised by the author which turns autonationally the right and left without disturbing the

nation

Prostatic diverticula may be congenital or ac ordered. In the congenital diverticula which are very rare the orlice is ordinarily not constricted as in the acquired diverticula. The acquired type of diverticulum is usually the result of an old chronic prostatitis of gonorrhoral origin. Rarely the colon bacillus or enterococcus, and more frequently the stanbylococcus, may be the offending organism. An aboress resulting from the inflammation leaves a tiny often microscopi cavity which constitutes the initial stage of the formation of a diverticulum. In some cases the condition may remain stationary at this stage and persist throughout life without causing inconvenience. In others, the period of latency may be terminated after from five to fifteen or more years Patients suffering from chronic gonorriccal urethritis should be warned of the possibility of late manifestations of a prostatic diverticulum. In a case cited three diverticula remained latent for tenyears and then produced audden evidence of their presence following an attack of dysentery

The symptoms are both local and general. The local symptoms are distrubances of mixturition or the symptoms of a recurring endidymits. The former are the more common. There may be extreme frequency accompanied by pain and an increase in the number of attacks of vesical intriation. The general symptoms, which are more typical, in clode those of intoxication, and infection producedly affecting the general health. Fatigue and incapacity for protopogle effort soon leaf to disability. In score

cases the symptoms may become acute and alarming. In a case cited there was fever of 40 degrees C, with a marked loss of weight occurring in a period of three works.

The author ascribes such symptoms to secondary infection from the urlnary tract. The organisms found most frequently are the colon bacillus and enterococcus. The staphylococcus is discovered especially in patients who have softered from recurring boils or authors. Hetz Boyer uses a urethrocytoscope with bilateral windows which render it more secondary to turn the instrument in the surface.

pecessity to turn the instrument in the detents.

For the operation is recommends the use of its preference was a first that there never features, and the contraction of the state of the contraction of the state of the state of the state of the state of the state of the state of the state of the state of the state of copper as a certain rigidity is needed to enter the nerve prostate cavides. The terminal plate should be used instead of copper as a certain rigidity is needed to enter the nerve prostate cavides. The terminal plate should be pointed and fietible. A stand for adjusting the nerve prostate of the state of the s

The sorpical procedure Itself depends entirely upon the findings in the particular case. In some cases it may be necessary to perform the operation is two stages, but the author prefers to complete it in one stage if possible. He warms especially against repeated minor procedures as these may predispose to humorrhags and infection. The patient about the hospitalized for at least five or six days, and if necessary for from ten to fifteen days.

Hefore the diverticulum liself can be attricked, its urethral ordice must be widened. In cases in which the diverticulum has many and tortoons ramifications the author treats the secondary dilatations in a second stage three, four or five weeks after the first stage. In the use of the electrocautery it must be remembered that secondary clastification will result and that therefore a margin of safety must be allowed in the cutting of the tissue.

A permanent on their abould be left in place for it least eight days. In the prevention of escoolary hemorrhage and infection Gayon's double curred cathetier is of great sid. After removal of the rathetic consistant irrigations with silver nitrate will help to remove the excessive scar thane. The elimination of this thase may take from four to six weeks, during which period the pain on micturition and the frequency of micturition may period.

EDITE S. MOORE.

De Langre Mr End Results of the Treatment of Tuberculous Epididymitts (Seites cloimtes de traitement de la tuberculous epididymains) J d'arelmés et chir., 1933, XXV 377

De Langre reports a statistical study of the results obtained by different methods of treatment in

tuberculous epididymitis. The treatment is not supple as the condition is usually associated with tuberculous lesions of the bladder prostate kidneys

leases, bones, or joints

French surgeons usually perform an epididy actions but some American surgeons perfer total removal of the genital organs on the affected side and Gensan surgeons prefer castration. De Langre Secures the results obtained by (1) medical testiment, (2) radical removal of the genital organs (j) cattration, (4) epididymectomy, and (5) ligation of the ras deferens.

In conclusion be states that epididymectomy is the method of choice as it preserves the important letteral scretchion of the testicle, and should always be done when the tuberculous leavon is confined to the epidigmia. Castration should be reserved for uses in which the testicle is extensively involved. Patoperative medical treatment improves the proposas.

MARIN W POOL. M D.

MISCELLANEOUS

Lartich, F. A Contribution on Chorion-pithell oma in the Male (Beitrag zum Chorion-Epitheliom dm Mannes) Reestgrafter 1933 v 108

Lacisch reports two cases of chononepithelioma in the male. The first was that of a man twenty-six pair of age who had had a swelling of the left testicle for four years. During the last two months the welling had increased and the patient had had a

cough with red expectoration. Roentgenograms of the lungs showed scattered roundish shadows cape cially in the middle and at the bases. Y ray treatment following operation was without effect Autopsy disclosed metastases also in the thyroid, brain kidneys, right adrenal liver and small in testine. At first, sarcoma of the testicle was suspected, but histological examination revealed chorionepithelioma. In general, metastases of chorion epithelioma are not sharply circumscribed in the roentgenogram Metastases of sarcoma tend to be distributed more centrally and those of chononepi thelloma are usually more peripheral than in the case herewith reported. In the first roentgenogram. the nodes were discrete but after three weeks they had become confluent

The author's second case was that of a boy nine teen years old who had had a testicular swelling for six months. The swelling gradually increased until it reached the size of a man s fist Examination revealed also a large tumor in the epigastrium gynecomastia and the secretion of drops of colostrum The habitus was distinctly feminine. Widespread metastases were found in both lungs the liver and the para aortic lymph nodes. In the roentgenogram of the lungs the pulmonary nodes appeared as round shadows scattered all over, but especially numerous in the lower fields. The pulmonary apices were uninvolved. Operation was not performed and as in the first case roentgen treat R MEYER (G) ment was without effect.

SURGERY OF THE BONES, JOINTS, MUSCLES, TENDONS

CONDITIONS OF THE BONES, JOINTS, MUSCLES, TENDONS, ETC.

Fairbank, H. A. T. Ostsochondritis Dissecure.

The author defines esteechandritis dissectars as a condition in which a fragment of stricular cartilage and subchondral bone becomes separated, partially or completely from typical positions at the ends of certain long bones.

Trauma is a common cause, but a history of trauma is by no means always obtained. The joint most commonly affected is the lines, but similar lesions have been found in the clow askle, and hip and come in the bead of a meetings. In some cases

the condition is bilateral

The typical situations of the leafons in the various joints are as follows in the knee, the luner condylectors to the intercondylar motch, in the ellow the expiteflum in the enable, the trochlers surface of the satragains and in the hip, the highest point of the head of the femur. Cases in which the external condyle of the femur. Cases in which the external condyle and the femur. Surfaced have been reported by Balensweig. Delchief and Heine, and case of hillsteral leafons of this condyle by Niessen. The author has seen leafons of this condyle by Niessen. The author has seen leafons of the external condyle and of the patcella. If the fragment is not displaced, the symptomic service of the condition of the external condyle and of the patcella. If the fragment is not displaced, the symptomic service is the condition of the conditi

Most surgeous believe that traums plays a part in the development of the condition, if only to cause the final complete displacement of the fragment. It is therefore well to consider first, how traums can occur at the typical spot on the laner conside. Direct external flujary can be eliminated because at the most common site of the lesions the articular the most common site of the lesions the articular lane to the condition of the lane of the contraction of the condition of the contraction of the condition of the conother boxes forming the joint. According to one theory the patella and according to smother the

spine of the tibia, is responsible.

The author believe special the tibial spike is responsible. The liner appear to be the larger of the tubercles in most knees if not in all, and certainly in those affects by osteochondritis dissensis. Several orthopedic surgeons have called attention to what they regarded as ercentive size of the laner tubercle in their cases. There are two ways in which this tubercle may be forced against the laner condyle namely by rotation of the tibia on the femine or of the femour on the tibia, and by an external or of the femous on the contract. In cases with a definite bilitary of traums on twent. In cases with a definite bilitary of traums but it seems probable that in most cases the factor responsible was rotation. Rosener favors the rotation theory but speaks of the involuntary rotation, be, external rotation, which takes place just before extension is completed. In the cada we has was able to produce knions of the articular cartilage at the

typical site by forced external rotation of the tibia. In the examination of a number of disected specimens the author and Blair found that as a rule, imprement of the tibial spoke against the inner conclude was produced by internal rotation of the tibial spoke on the femu. In only one of the specimens examined was it evident that external rather than internal rotation of the tibia brought the spine to beer against the condyle. A study of the lateral rotation of the control of the

The author concludes that the typical lerion is a fracture. He bases this conclusion on the following

facts

It occurs most frequently in adolescents and vouns adults including in viewrous nestings.

 Typical leaions are seen in rocatgenograms and revealed by operation after definite trauma which in aone cases is mitte rocent.

3. A lesion at the typical sits may involve the cartilage only, the detached fragment consisting of normal articular cartilage. In such cases there is a definite history of traums.

4. There is entire absence of inflammatory

changes in and about the lesions.

3. The gross appearances when operation is performed early suggest nothing but a simple recent fracture. When sufficient time has elapsed for changes to occur they are only those which would exexpected from an effort on the part of the theore to repair the damage. Exactly similar changes are or casionally found on the more exposed part of the femoral articular surface, where the traumstic origin of the lections in never disposed part of the

6 When the detached fragment is suspended by a vascular pedicle the bone in it is not dead and is

not a sequestrum.

not a sequestrum.

7. To explain the occurrence of the lesion is both knees or in the knees of more than one member of a family it is easier to assume the presence of anatomical peculiarities favoring exceptional local trums than the occurrence of embolism, damage to the

blood supply or any other change.
With regard to the treatment the author states that in the absence of symptoms the finding of a typical lesion in a roentgrengram is not a sindicent cause for opening the joint. However it is externedly unlikely that this discovery will be made except in the course of routine roentgeneracy exami-

action in a bilateral case. Fairbank has found the isin mempetically on routine rooming may exami union in cases with a damaged semilunar carrillage Helstrom advises operation in spite of the absence of graphoms as he believes that if such treatment is set gram, oxfor-arthritis will develop. In Fairbank spition, this late complication cannot be prevented

even by early operation. Is the presence of symptoms the joint should shays be explored. If, when the joint is opened the attendar surface is found to be unbroken but the site of the lexion is clearly indicated by a change in the color or texture of the overlying cartilage or the extent of the lesson is indicated by a groove an at tempt should be made to determine whether the cir conscribed area of cartilage is movable or not. If it a movable, it should be excised, together with any loose bone beneath it. If it is not movable, the probem is more difficult. In the author's opinion the condition of the cartilage within the circumference of the letion should be the determining factor If the cartilage is definitely soft sodden and rough it should be excised even if it is unbroken all loose bose should be removed and the edges of the hole should be carefully bevelled. If the cartilage is almost normal in appearance, if the leaion is only just discernible, and if there is nothing to suggest that a fragment of the bone is loose the lesion may athly be left alone. If there is any doubt regarding the condition, and particularly if the mobility of the imment beneath is uncertain it is wiser to excise the lenon

It the lesion presents the more usual appearance with the cartilage fractured, but with an unbroken portion holding the fragment more or less in post ins, the separation should be completed and the fragment removed. The cartilaginous margins of the crater should be carefully bevelled when necessary and any undermined portions removed. If the fragment is free in the joint and the recentgenogram above the tift from which it came, the incition should be planned to allow inspection of the crater as well as arranged of the loose body. In all cases the condition of the semilunar cartilage about he determined.

The immediate prognous and the prognosis for some years to come are undoubtedly good, but the most proposis is less favorable as there is reason to believe that outeo-arthritic changes are certain to occur somer or later H. EARLE CONVELL M.D.

Fairinkeri, M. 1 The Methyl Antigen of Boquet and Myre in the Treatment of Osteo-Articular Tuberculosis (Lantigene meillico di Boquet et Agraelia cura della tuberculosi osteo-articulare) Car di organi di menimento 1933 xvili, 37

Palimieri has treated forty seven cases of osteoarticular tuberculosis with the methyl antigen of bomet and Negre As this treatment rarely causes can a sight general or local reaction, it is applicable to ambalatory as well as hospital patients. However it is costra indicated in cases with marked pyrexia and advanced tuberculous cachezia. The methyl antigen has a specific beneficial effect upon tuberculous osteo-articular lessons. It may cause cessation of the activity of the pathological process subsidence of the fever (70 83 per cent of the cause reviewed) resorption of abscesses (75 54 per cent of the tesses reviewed) disappearance of the spinal cord phenomena due to the pressure of abscesses relief of the pain regression of the defensive muscular contractions, and the arrest of bone de struction. By favoring healing of the local process it may stop the progress of the deformity. The improvement is evident not only clinically but also on roentgen examination. The roentgenogram shows recalcification re appearance of normal bone trabecular and signs of reparative processes.

The effect of the antigen continues after the treat ment is discontinued probably on account of humoral and tissue immunization set up in the organism

Perfer A. Roxi, M.D.

Selvaggi, G Vertebral Osteomyelltis (Losteomielite vertebrale) Ann sial di chir 1933 xii

Salvaga reviews the history of vertebral osteomyellits and reports two cases. Lannelongue, in 1879 was the first to study the condition. According to statistics, cases of vertebral esteomyellitis consitute from z to 6 per cent of all cases of esteomyellits. Up to 1932 about 200 cases had been published. The mortality decreased from 71.4 per cent in 1896 to 34, 5 per cent in 1931

The author's patients were males fifty and eighteen years of age. In both, the disease followed pneu monia and involved the third and fourth lumbar

vertebræ.

In the first case there was a paravertebral abscuss with alow compression of the spinal cord causing sensory and motor disturbances in the leg. In the second case the paraverse is the evident space, producing sudden paraylegia paralysis of the sphincters, and disturbances of sensation. In both cases roent genograms showed disappearance of the intervertebral disk and in the first case disclosed also a sharp margual ostcopylitis shadow. These findings apparently confirm the hypothesis that the primary placetion is in the disk. Thickening of the marginal shadow together with destruction of bone are strongly suggestive of cateomyellitis. Both of the author's cases came to operation at a late stage and

As a means of determining whether operation is indicated or courts indicated Selvaggi recommends lumbar puncture above the suspected site of the lexion A purulent fluid contra indicates operation. Selvaggi discusses the difficulties of differential diagnosis, the necessity for early diagnosis and active intervention, and the choice of operative measures according to the conditions in the particular case. In cases diagnosed early the results obtained by direct attack on the focus in the bone are in favor of bold and radical operation.

MARY ELIZABETH MORSE, M.D.

Putti V 1 Clinical Aspects of Deganeration of the Intervertebrai Diaka (Aspetti clinici della de-generazione dei disco intervertebrale) Chir d organi di merimente 1933 IVIII, I

Putti reports ten cases of localized chronic lumbar pain due to primary degeneration of an inter vertebral disk Roentgenological study of this condition shows that narrowing of the intervertebral spaces is constant, but is not symmetrical or equal on both sides. It causes an angulation between the two vertebral surfaces and a localized sharp scoliosis. As it is usually more pronounced anteriorly than nosteriorly a kyphosis results. In early cases the kyphoch is slight, but in advanced cases it is more marked. In the earliest lealons the narrowing may be equal throughout the entire point surface and the vertebral surfaces adjoining the narrowed disk may appear normal.

In the more advanced cases the epiphyseal surfaces are deformed and show evidence of aderosis which may extend into the spongions. The narrow ing of the disk permits contact and friction of the two epiphysesi surfaces with resulting marginal thickening and scierosis of the spongloss. As far as can be determined from roentgen-ray studies, the narrowing of the disk involves particularly the fibrous or lamellar ring of the disk. The negative shadow of the gelatinous nucleus is outlined fairly

well even in advanced cases. The marginal reaction occurs on the ventral and lateral sides of the vertebral bodies. The lesion occurs most commonly in the upper lumbur region and is limited to a single intervertebral space. In a case in which a lesion of the disk between the first and second lumbar ertebrae was present for five years, the disk between the second and third lumbar vertebre showed changes, but in another case, in which the narrowing had been present for about ten years, the process remained limited to one disk.

The author's patients included an equal number of males and females. Their ages ranged from thirty five to sixty years. In one case the symptoms had been present since the patient was nineteen.

One of the first symptoms is pain. As a rule it is mild and localized and is aggravated by motion but not by direct or indirect pressure. It is usually local ized to the lumbar region. In only one of the author a cases did it radiate to the lower extremities. Complete relief for months occurs at periodic intervals. During the scute phase the pain is severe and con fines the patient to bed or renders the erect posture and walking difficult Frequently it is not relieved. but accentuated by the horizontal position, al though it is almost immediately relieved by immobi-Hzation in a plaster cast

The disease runs a chronic course. It begins with out any apparent cause, pames through phases of pain alternating with periods of quiescence, and tends to become progressively worse. However, the pain and the pathological process remain localized.

Putti discusses the possible causative factors. He believes that the condition is due to trauma.

The treatment indicated is immobilization and active hypersenia. The immobilization should be prolonged. One of the author's patients who has been under observation for five years continues to require immobilization. Soinal fusion may vield enod results. PETER A. ROSE, M.D.

Dodd, H.: Pled Force or March Foot, Brit J See 1933 84, 131

In reviewing the literature on march foot, Dodd cites Morton as having shown that certain feet force tion at a mechanical disadvantage being structurally weak. Morton described four signs or defects indicative of potential foot trouble which can be disgnosed by roentgen examination. These are

I Laxity of the joint between the internal curelform bones and between these bones and the scaphold which results in hypermobility of the first metatamal.

 Shortness of the first metatanual causing over pronation of the foot.

3 Posteriorly located sesamoid bones at the head of the first metatarsal.

4 An enlargement of the shaft of the second metatarnal bone especially in its transverse diameter, which has arisen in response to the incressed burden thrown on this bone by an incompetent first metatarral.

In examining for Morton's four points the rocat genograms of fourteen march feet presented by different orthopedic surgeons, the author found. (1) signs of hypermobility of the first metatarial in twelve of thirteen feet (a) a short first metataral in three cases, (3) posteriorly placed sesamolds in all cases in which an observation was possible (4) thickening of the second metatarsal in thirteen cases of the third metatarsal in seven cases, and of the fourth metatarnal in one case and (5) a marked increase in the density of the outer border of the first metatarsal in all cases. Thus, march foot is most likely to occur in feet that are structurally wrak.

The author believes that march foot is a complica tion of a subscute flat foot occurring in feet that are structurally weak. In such feet, muscular spass and exhaustion alternate and as the latter seper venes, the stout ligaments of the foot are gradually stretched and direct traums occurs to the boay skeleton of the foot. The undamped shocks produce effects first in the weakest bones, which include the slender resilient metatarada.

As flat foot develops, the feet take up the usual pronated-abducted position, pointing outward instead of approximately straight forward. Thus the body weight is no longer carried through a line parsing between the first and second metatarrals, parallel with their shafts and distributed squarely on the beads of the five metatarsals, but falls largely in an obligadirection on the inside of the foot, i.e., most on the head of the first metatarnal (if it is normal) next on the head of the second then on the head of the third. and to a lesser degree on the heads of the fourth and 6th. If the foot is structurally weak, as appears to be frequently the case in march foot a hypermobile fret metatarnal will roll away from this weight and as a congenitally short metatarnal cannot reach to the ground to carry the strain, the weight must pass numerily to the second metatarsal and in decreasing amounts through the third fourth and fifth meta

March foot is probably an auto-traumatic com plication of subacute flat foot in a structurally weak toot rather than a separate clinical entity. Among the various diagnoses suggested for it are tenosynovitis, spasm of muscles, pernostitis synovitis arthri tis rheumatism, and fracture with callus formation. All of these conditions may be factors in its development.

March foot develops insidiously with slowly in creasing pain which at first occurs after prolonged exercise effort and later after ordinary exercise Ultimately, the pain becomes continuous and causes diability From twenty to forty years ago reports of groups of from fifteen to forty cases were common, but during the last ten years the number of

cases recorded has been much smaller

The swelling appears on the dorsum of the foot It is usually centered about the shafts of the second and third metatarsals and invades the soft tissues and bone. It scarcely pits on pressure and is tender and alightly reddened. A bony swelling of the shaft of one of the metatarsals usually the second or third becomes palpable several weeks later This is callus which is usually formed around an oblique or V shaped fracture of the metatarsal shaft at the junc tion of the middle and distal thirds. Unless march loot is borne in mind the callus may be mistaken for a new growth necessitating amputation.

In the fully developed case the roentgenogram shows a bony swelling with a somewhat fluffy, bulbous outline due to callus, at the junction of the distal and middle thirds of the shaft of the second or third metatarsal or the shafts of both of these bones much less often of the shaft of the fourth or fifth metatarsal, and extremely rarely of that of the first netatarsal. This swelling is around a partial or com plete fracture usually without displacement. As recovery progresses, it becomes smaller and more sharply defined. In the early stages there is in creased density of the shafts of the metatarsals where the interesseous muscles arise i.e the sec ond, third, and fourth and the inner border of the aith. The outer border of the first metatareal shaft s also dense, but the change is most marked in the shalt of the second or third metatarsal.

According to Jansen, other bulbous swellings may ame about the shafts of the metatarsals. The anthor has observed alight ones about the shafts of the first phalanges of the second third, and fourth toes. These are probably due to localized periostitis at the site of attachment of the flexor tendon

In the treatment advocated by Dodd the patient is kept in bed until the pain and cedema subside the foot being completely immobilized by plaster in a dorsiflexed and inverted position with a well moulded arch If necessary the foot is manipulated into this over-corrected position under angesthesia

When the pain subsides the patient gets up and is carefully fitted with stout shoes or boots which will adequately support the foot. The footwear is supplied with internal wedges to the heel and sole metatarsal bars or if necessary an external iron with an internal T-strap

The patient is instructed with regard to the toilet and care of the feet and is given a card on which the

following rules are printed

1 Scrub the feet and legs daily in hot water with a soft brush or loofah glove

2 Wear thick stockings or socks and change them frequently

3 Avoid standing
4. Walk with the toes pointing directly forward never outward

5 Wear shoes or boots from the moment of get ting out of bed until getting into bed at night

6 Never walk in soft slippers or with the feet protected only by stockings

7 When sitting place the feet up on a chair or couch if possible

8 Practice moving the feet and toes up and down about twelve times before or after each meal when

in bed and when riding on a bus or train The treatment described includes also graduated exercises of the feet and legs to redevelop the lost

muscular tone. The patient is not allowed fully to resume his occupation until the muscle power is equal to all ordinary and extraordinary demands

likely to be made upon it

Obesity varicose veins, visceroptosis general muscle flabbiness and poor bodily carriage are treated and any septic foci with toxins diminishing muscle tone are removed if possible.

Finally because of the permanent structural weakness of the foot the patient is warned that more consideration of the feet than is usual will always be necessary and that sound, well fitting footwear must be worn. H. EARLE CONWELL, M D

Wiltzer H: Growth Apophysitis of the Calca neus Calcaneopathia Posterior Adolescentium (L'apophysite calcanéenne de croissance calcaneopathia posterior adolescentium) Arch franco-beiges de chir., 1931-32 xxxili, 860

Growth apophysitis of the calcaneus is an entity the characteristics and symptoms of which are now so clear that it need not be confused with other con ditions of a similar type. It is a disease of ossifica tion occurring only during the second period of child hood-in girls from seven to sixteen years and in hove from ten to twenty-one years of age.

It is caused by various factors such as over exertion in sport, occupational fatigue, traumatism masked osteomyelitis, and endocrine disease. It is characterized clinically by pain and swelling and roentgenologically by very evident disturbances of ossification in the apophysis. The onset may be sudden or insidious. Besides pain and swelling the symptoms may include contracture, muscular strophy sensitivity to pressure, immense circumscribed suppuration, and crepitation.

The course is prolonged, with possible remissions of several months duration. The condition may be

come bilateral.

In the reentgenological signs two stages may be distinguished, a first stage of decellification and a second stage of hypertaclification. In the former there is an increase in the density of the apophysis and cartillage and bone shadows appear in the cartillage. The calcaneous thows toolentations on the posterior surface, fregmentation, decellification of the theoretic than a partial rarefaction of the lower third. During the stage of hypertaclification the density of the nucleus is increased.

consist of the mosterial is increased. There are two clinical forms of the condition (i) the common form, which is most often benken and to a spenin, beautiful, or contrasion and (i) the pseudo-infections acute form, which is unally at companied by a rise in the local and general temperature, very severe pain, contracture, general prostration and sometimes chillis

In the differential diagnosis it is necessary to rule out tuberculous, syphilis, osteomyelitis, paramycetoma, trauma and certain conditions in the neighboring parts such as subastragalar or calcaneocoboid arthritis, burnitis, and tenosynovitis.

As a rule growth apophysitis responds to rest in bed for a few weeks and appropriate general and orthogedic treatment.

General tonic treatment, including the administration of iron rest in bed, and ultraviolet irondation, is of great benefit. Batthing for thirty minutes in water containing see sait and at a temperatur of about 35 degrees has been found of value, especially in cases without supportation. In these cases also Borchardt has obtained good results from surject removal of the cartiflate.

In the supportative cases, the administration of polyveient anti-staphylococcun vencine may be still cient. Surpical treatment consists in removal of the supplysis followed by drainage. In some cases polygiandular organotherapy has given good readilist. The orthopocile measures include placing the foot in equinous in a plaster cast. Some supposar recommend the wearing of high-hecied shose to refere treatment, that advocated by Zaaler is the application of a felt band over the beel. Recently Flab devised an apparatus consisting of a right-angled aluminum spilint fitting into a raised cock soic, the whole encased in leather. Eners. S. Moost-

SURGERY OF THE BLOOD AND LYMPH SYSTEMS

BLOOD VESSELS

Jun, G. An Evaluation of the Risks of the Injection Treatment of Varicose Velna (Wie ist die Grischriichteit der Variconinjektionen heute zu beurteilen?) Husneken med Wehnsekr 1932 ii, 2107

Two dangers behaved to be associated with the in action treatment of varicose veins are pulmonary embolism and the formation of ulcers difficult to heal. The latter complication is due to faulty tech mone. Paravenous injection should not occur Some surgeons maintain that even when a correct tech nique is employed a reflux may cause serious tissue damage. This may be avoided if pressure is main tained over the site of the injection when the cannula or needle is removed. As the vein must be entirely free from blood, compression should be continued for at least ten minutes after the injection. In Schmie den a Clinic an elastic binder is placed over the area for one or two days. Complete absence of blood is necessary in order that the sclerosing solution may attack the vein wall in its full strength. The posi tion of the patient during the injection is of second ary importance. The injection may be performed with the patient in the reclining sitting or standing position, but a change of position while the needle is in place should be avoided. The best solutions for injection are concentrated solutions of sugar and sodium chloride.

Of several thousand injections, embolism occurred in only 13 and was serious in only 3 When the suphenous vein is ligated the incidence of embolism a increased to from o 5 to 1 36 per cent This disposes of the question of preventive ligation of the aphenous vein. The chief factors in the formation of thrombi and emboli are slowing of the blood cur rent, injury to the vessel wall, and changes in the blood itself. In agreement with Fischer Wachs, and Tannenberg, the author distinguishes between local wound thrombosis, septic thrombosis and spreading distant thrombosis. In the injection treatment of various veins only local wound thrombosis caused by the irritating action of the solution on the venous wall must be considered. This is harmless and does not extend to other vessels In X ray studies made in cares in which salt solution was injected Fischer found that when the solution was washed out from the region of the varices it became greatly diluted. Lampert found that both of the solutions mentioned tended to prevent embolism Wymer found that is the they diminished the clotting function. Ac cordingly in cases of embolism there must be pecu har conditions particularly a predisposition of the blood to thrombosis, caused by disease or infection. In these cases there is always a spreading thrombosis. Contra indications to the injection treatment are previous diseases and thrombophiebina. Varices should be injected only in the cases of otherwise healthy persons. Large, thick veins are not contra indications. After operative treatment the incidence of recurrence ranges from 20 to 40 per cent whereas after injection treatment it ranges from 15 to 30 per cent

The author strongly recommends injection treat ment for varicose veins. He believes that fatal lung embolism is impossible if the proper precautions are taken. He calls attention to the fact that sudden emboli may occur also in untreated cases of varices.

Herrmann, L. G Syphilitic Peripheral Vascular Diseases Am J Syphilis 1933 xvii, 305

Herrmann states that the importance of syphilis in peripheral vascular disease has never been defi nitely evaluated although the effect of syphilis on the heart aorta, and cerebral vessels is well known. Syphilitic changes have been found also in other vessels. Of fifty cases of syphilitic aortitis studied by Saphir they were present in the innominate artery in thirty three in the carotid artery in twenty nine, in the superior mesenteric artery in ten in the in ferior mesentenc artery in three, in the common iliac artery in ten, in the femoral artery in seven, and in the subclavian artery in fifteen. They con sisted of a perivascular infiltration about the vasa vasorum in the adventitia and media with consequent changes in the intima. The observations of Warthin in two cases of peripheral gangrene associated with syphilitic aortitus are cited. Warthin s pathological studies showed that syphilitic aortitis is essentially a disease of the vasa vasorum. The narrowing and obliteration of the vasa cause in farction degeneration, and fibrosis of the intima and media.

According to Herrmann's experience, syphillitic changes are more common in the tibial arteries and their branches than in the larger arteries of the lega. In the Vascular Clinic of the Cincinnati General Hospital several patients with syphills were observed who showed vascular disturbances different from those of any form of peripheral vascular disease commonly seen in non-syphillitic patients. The disturbances were of three clinical types, namely angiospastic, endarteritic, and thrombo-arteritic.

The angiospastic type is attributed to chronic irritation of the perivascular pleaus of the nerves due to the perivascular inflammation. It is character ized by pain, tingling numbness cyanosis coldness and sweating of the involved extremity. It differs from Raynaud a disease in the fact that the pain is constant and severe and hot associated with par

oxyams of vascepasm. It is relieved by anti-syphilitic treatment

The endarterite type is the most common form of syphilitic arteritie encountered in clinical practice. It is well known that in the terminal reseals applied tends to produce an obliterative endarterities with hyaline degeneration. This is manifested as an obliterative periphenal atterial disease without evidence of arteriosclerosis. One of the characteristic features is the spontaneous development of an active collateral circulation. Anti-applifilite treat most will arrest the inflammatory process, but the application of measures for the restoration of an advente collateral circulation is assertial.

The thrombo-strettic type is also characterized by an obliterative actual process. Though throm bosis is rare in vascular ayabilis, it occurs occasion ally. It causes obstruction of major arteries with consequent signs and symptoms of inchemia in the involved extremity. In this condition also the development of an adequate collateral circulation

is a feature.

Cases illustrating the various manifestations of syphilis on the peripheral arteries are reported. It is emphasized that although anti-syphilis treat ment stops the active inflammatory process, it cannot restore arteral channels obliterated by the disease. The most hopeful means of restoring circulators of the attention of an active collateral efficiency is the attention of an active collateral engagement of the collateral engagemen

HERMAN E PRARET M.D.

Reid, M. R., and Hermann, L. G.: Treatment of Obliterative Vascular Diseases by Means of an Intermittent Negative Pressure Environment. J. Hel. Charmati, out. iv. roc.

In the majority of instances peripheral vascular disease is due to an obliterative process. Neverthe less, little progress has been made in its treatment. The authors report the use of negative pressure. In this procedure which was used in vascular disease originally by Braeucker the pranciple of Bier's hypersmus by auction is employed.

The use of negative pressure to produce hyperemis was tested on twelve patients—two with thrombo-anglist obliterans, two with syphilitie arterits, and eight with arteriorderoels. The treat ment resulted in the relief of pain, the healing of ulcers, and subjective and objective improvement of the peripheral circulation.

The negative pressure is applied to the limb in the elevated position. The extremily is inserted through a rubber culf into a chamber. By means of a suction pump the pressure in the chamber is slowly reduced to—ro mm. Hg, kept at this level for one minute, and then alsoly raised to atmospheric pressure. This cycle of change occupies about fire minutes and is repeated from five to ten times at a treatment. The treatments are given twice duly for a period of accessil months. Positive pressure is never used.

The authors conclude that intermittent negative pressure causes sufficient dilatation of collateral channels to warrant its use in the treatment of oblit crative results disease. However, M.D.

Pearse, H E., Jr : Embolectomy for Arterial Embolism of the Extremities. Ass. Sarg 1933, 177011 17

Pearse reviews the literature on arterial embolism of the extremities and summarizes the results in 296 cases in which arterial embolectomy was done, including 6 cases of his own.

Fifty two per cent of the patients subjected to embolectomy died within a month of the operation, but in practically no case could death be attributed to the operative procedure. The chief causes of death were cardiac disease and embodium in vital orwana.

From a comparison of the results obtained by operative and non-operative procedures, the subtor concludes that the best results are certainly to be obtained by early embolectomy. He urges early operation as the prosposis becomes propressively porer with the lapse of time. In his own cases all operations except 1 were done within six hours of the onact of symptoms. Three were done within less than two hours. After ten hours the results became napidly worse and after forty-right hours.

no successful results were obtained from operation. Following a review of the symptoms and signs of arterial embolism, the author urges early recognition of the condition and immediate cooperation between the internsit and surveyon.

Most R. Raw M.D.

BLOOD TRANSFUSION

Arntiunjan, M : The Use of Preserved Blood (Dio Versendoug von komervierten: Blut) Serves probl genatal perdis. Keori 2032 ill iv 33.

The author reviews sixty five translations in which he used preserved blood. The blood was taken from fifty-occ donors and administered to fifty-fire patients. From the color properties of the state of the color o

The experiments aboved that transportation of preserved blood is questioned if the flash is filled to the stopper and is carefully closed and packed. It was not exceeding 4-4 degrees. When this is done, microgramms entering the blood from the air are presented from multiplying. Nevertheless extend studies have demonstrated that blood may be also at room temperatures from 15 to 18 degrees C.

Is the author's opinion the appearance of the blood (harmolysis, flocculation membrane forms the, and doudiness of the serum) may be used as a citizen of the suitability of the blood for transferse. According to this criterion, the blood appeared unfit for use in five of the suxty five instances retirred, and in these instances examination demonstrated bacterial growth.

A. Firavov (Z)

Shogird Finkel, F: The Question of the Contamination of Preserved Blood in the Clinic and in Experiments (Zur Frage uber die Verunrialgung von kooserviertem Blut in der Klinik and in Experiment) Secrem probl perdir krori i matte, 1921 Bl-t 50

This report is divided into an experimental and a discal part. In the first series of experiments, preserved blood was artificially contaminated by a drop of a batterial suspension (25 000 batteria). The bac trioidal properties of the blood were tested with regard to several strains of staphylococci (staphylococ es albm, aureus, and flavus) to the bacillus coll, rad to the bacillus subtills. In some of the experiment the preserved blood was exposed to accidental contamination by the air. In a second series of experiments the strength of the bactericidal property of the preserved blood was studied experimentally by coming the colonies of bacteria in Petri dishes cury twenty four hours for three days after con tammation of the blood

The investigations showed that preserved blood possess certain bactericidal properties similar to those of fresh blood. As dog blood is inferior in this report to human blood the findings of experiments so dog cannot be compared without reservations with those of studies made on human beings. The batterickial power of preserved blood is often sufficient to kill all bacteria introduced into the blood with air it was demonstrated that preserved blood does not destroy the infection at once Living bacteris were detected more often in the first nine hours than on the second or third day after the infection.

Of forty five cases in which preserved blood from one to five days old was transfused and a bacteriological test was made before the transfusion the blood was found to be sterile in forty-one and in fected in five In three of the latter the bacteria were non-pathogenic air bacilli and in two they were cocci. In all the transfusion was performed without complications. The author is of the opinion that micro-organisms of this type entering the blood accidentally are weakened by the blood to such a degree that they are easily destroyed by the blood of the patient.

A FILATOV (Z)

LYMPH GLANDS AND LYMPHATIC VESSELS

Rodrigues, A and De Soum Pereira A: New Methods of Studying the Lymphatic System (Novas orientações no estudo do sistema liniático) Arq de polol 1931 ili 121

In experiments on dogs the authors studied the re-establishment of the lymphatic direulation after ligation of the large vessels of the limbs or neck. They describe their technique of injecting an opaque substance so as to reader the lymphatic system visible on roentgen examination and present roent genograms showing the distribution of the lymphatics.

After either section or ligation the lymphatic circulation tends to become re-established. The reconstruction is more rapid after ligation than after section. The authors agree with Funanka that the collaterals are preformed vessels that have not functioned previously rather than newly formed vessels.

From experiments in which they studied the effect of sympathectomy on the re-establishment of the lymphatic circulation the authors conclude that this operation contributes to the development of the collateral circulation and therefore to the reestablishment of the normal lymphatic circulation.

AUDREY GOSS MORGAN M D

SURGICAL TECHNIQUE

OPERATIVE SURGERY AND TECHNIQUE POSTOPERATIVE TREATMENT

Windfeld P : Contributions to the Knowledge of Postoperative Changes in the Blood (Beltrage rar Kenninis der postoperativen Blutversrader sages) Acts chiway Scand 1933, ixx, Supp. xxv

The investigation reported was undertaken to study certain postoperative changes in the blood that might be related to the formation of thrombi-Windfeld observed a postonerative increase in the platelet count which he considered related to the resoration of wound secretions. There was an increase in the viscosity and a decrease in the serum proteins of the blood. These changes were parallel to the amount of blood lost. An increase in the sedimentation rate was related to an increase in blood fibringen and not to the severity of the operation. No essential changes occurred in the coasulation time or the calcium content of the blood. Windfeld conduded that the variations noted could not be exnected to be of help in the recognition of a berinning thrombus formation. HOWARD L. ALT M D.

Koonig W i A Proposed Method to Frevent Post operative Thromboels and Embollem. Comparative Observations on 1,599 Patients Subjected to Operation (Ein Vonchlag zur Vermeidung der postoperativas Thromboes und Embo

Koeniy has found that the characteristic evidence of the general effect of an operation is infury to the blood platelets which leads to more rapid destruction of the platelets and a decrease in their number This characteristic effect is produced by the intermediate stages of the destruction of the nuclei of the cells which are disturbed at every operation. The prod ucts of nuclear destruction are the only substances that meet all requirements for the development of thrombosis blood changes, injury to the circulation, and changes in the walls of the vessels. The most important effect of the products of nuclear destruction is the effect on the blood platelets. This effect occurs through the spicen. Substances which cause the spleen to contract or exclude its reticulo-endothelial system prevent these changes in the blood platelets which appear after nuclear destruction.

On the basis of these findings the author has used sympatol to prevent thrombosis after operation. As the inhalation of carbon dioxide increases the volums of the circulating blood and causes desper breathing, he employed carbon dioxide to supplement the sympatol and to prevent pneumonia.

For seven days after operation the author's patients are given so drops of a 10 per cent solution by month or 1 c cm. subcutaneously 3 times a day and approximately every hour during the same time, several inhalations of carbon dioxide until respiration is definitely increased. By this method sufficient breathler is termed

The author compared soo patients treated in this manner with 1,000 other patients, including some with the same discusse who were treated on the same service at different times. Equal numbers of nationts with the same conditions, such as amoundcitis and gastric carcinoma, for example, were comnared. In the cases in which the prophylactic resime was used, the incidence of thrombooks and embolism was less then I per cent, whereas in those in which the regime was not used, it ranged from 6 to 11 per cent. In this comparison Koenig considered only thromboses and emboli which occurred within the first eighteen days, since after that length of time the effects of the nuclear destruction had ceased. If the late thromboses are considered in addition, the statistics are even more favorable with respect to prophylaxis. The sympatol and carbon dioxide caused mild thromboses to disappear in from two to four days. The statistics with respect to pneumonia were also improved by the regime described, the incidence of openmonia following operation for statuic carcinoma, for example being decreased from 11 s to 4.5 per cent. Kommo (Z)

ANTISEPTIC SURGERY; TREATMENT OF WOUNDS AND INFECTIONS

Braine, M. J.: Primary Suture of Traumatic Wounds in Civil Practics (A propos de la sutura primitive des plaies accidentelles dans le prairies courante du temps de pairs). Hall, et mém. Sec. vel. de chir. 913, liz., 95.

Braine sounds a warning against the practice of suturing wounds primarily which became common during the war During the war the chief object was to gain time and get the men back into service as soon as possible. In peace hasto is less important.

Primary suture is always associated with rith. It is not necessary to see life, and it way often considered. It should be performed only by skilled asceptienced outproos. Thousand should be ther oughly examined, all foreign bodies and evary its of injured these should be removed, and absolute hermostasts should be obtained. The younger generation of surpones who have read the accounts of the wooderful results obtained with primary seture routinely and often without the necessary careful revision of the wood. The author cities are called the revision of the wound. The author cities are called the which the results were disastrous and knows of scany more.

In the discussion of this report. MÉTIVET agreed with the ideas expressed by Braine and said that the Surfail Society should teach that suture of extengire wounds of the soft parts is a difficult and serious operation which should be done only by skilled surgrous.

Braces said that good results cannot be expected from primary suture unless the anatomical conditions are such that a free excision can be done for some distance around the wound and perfect asepsis

can be obtained.

Sauvé said that Braine's criticism was more of men than of method. It is true that primary suture is dangerous unless it is performed with the greatest care by skilled surgeons and the length of time that his elapsed since the wound was inflicted is taken into consideration. Up to the fifth or sixth hour there is not much growth of bacteria in the wound. liter the eleventh hour suture is dangerous. The sature should be followed by careful bacteriological examinations. This was the custom during the war, but is neglected by many hospitals in peace time

Moutovour stressed the importance of impressis on young surgeons the necessity for great care in the treatment of wounds and the danger of suture mless such care is exercised. From the war litera ture the public has gained the idea that wounds should be sutured and it sometimes requires courage on the part of the young surgeon to refuse suture.

Mocovor said that there are considerable differ ences between typical war wounds and wounds sus tained in civil life. The tracks of bullets are gen eally quite limited and circumscribed, whereas in wounds sustained in civil life, such as those resulting from automobile accidents, the involvement is apt to be much more extensive and irregular and the complete removal of bruised tissue is difficult Moreover persons with wounds incurred in civil life are apt to be older than, and not in such good condi tion as, young soldiers.

Sozzer stated that young surgeons should be taught that the suture of a wound is a serious opera tion, and that it is not safe to suture after having merely applied indine or some other antiseptic.

LENORMANT agreed with Braine that the hasty and careless suturing of wounds is very dangerous. He stated that suturing should not be done until after methodical and complete excusion of all injured there. This excision is a long and difficult operation which requires experience and an accurate knowledge of anatomy Lenormant agreed also that dril wounds are generally more extensive and more complex than ordinary war wounds, and that carefal hacteriological control is apt to be neglected in chil hospitals. Because of these facts he believes it better to adhere to the safer method of cleansing the around, extracting foreign bodies removing injured there and dressing without suture. He stated that the method of secondary suture is an excellent one which seems to be almost forgotten. While it is less brilliant than primary suture, it is much safer

AUDREY GOES MORCAN M D

AMÆSTHESIA

Delagenière Y : A Comparative Study of Differ ent Kinds of Angesthesia Based on 21 000 Observations (Étude comparée des différentes modes d anésthesie d après 21,000 observations) Ball et mem Soc nat de chir 1932 Ivili, 1523

Delagenière reviews 21 000 anæsthesias of which records were kept by his father Henry Delagenière or himself in the thirty seven year period from 1805 to 1032 The time at which the anæsthesias were induced the type of anæsthetic used, and the mortal ity are shown in a table

The figures indicate that operative mortality does not depend upon the type of anæsthesia used. In the thirteenth, fourteenth and fifteenth thousand anzesthesias reviewed, which were induced at a time when local annesthesia was being used with increased frequency the operative mortality was less than 5 per cent. However local anæsthesia was not then employed for major operations on the stomach or abdomen and when the operative mortality in creased later with an increase in the number of major operations performed by Henry Delagenière the extensive temporary adoption of spinal or local anesthesia did not decrease the operative mortality

In the first five years of the period reviewed, Henry Delagenière preferred ether whereas in the next twelve years he preferred chloroform. Later he employed a mixture of chloroform and ether Subsequently he abandoned this for Schleich a mixture and after 1028 employed the latter almost exclu sively The use of ethyl chloride, which was at first very limited, was tripled after 1924. Today ethyl chloride is employed for one-fifth of the general angesthesias induced at Le Mans. The author believes it is an important factor in the improvement of operative results.

Spinal angesthesis was used frequently during the years from 1912 to 1913 but its inconveniences and lack of true advantages led to its progressive abandonment. Ten years later, when new anasthetics suitable for spinal anasthesia were discovered it returned to favor but later it was again progressively abandoned At the end of his professional career Henry Delagenière condemned it, and the author under the influence of his training in neurology has shandoned it entirely

In the period from 1921 to 1924, local anaethesia was tried by Henry Delagenière for major abdominal surgery especially operations on the stomach. He employed it either alone or combined with several whiffs of chloroform and ether. The results com pared with those of general anaesthesia led him to re lect it and to employ only a mixture of chloroform and ether or Schleich's mixture for abdominal sur

Rectal angesthesis induced with ether and oil, the most recent type of anæsthesia, is being used with increasing frequency. It may be employed for all long and serious operations not performed on the shelomen-interventions on the central nervous system, the neck, the breast the lungs, the chest, and

The author concludes that general aneathesia induced judiciously with the Schleich mixture or ethei chloride or with ether given by rectum is the aneathesia of choice provided it is induced by an expert amenthetist.

Barr who read this report to the Society reviewed the amethesias induced for \$850 to operations performed by bitmedf and his associates. Of these, \$227 (188 per cent) were general, \$80 (169 per cent) were local, and \$18 (4.2 per cent) were spinal. The only death attributable to the amenhesia occurred in a cuse in which spinal amenthesia was in

duced with percuin. Basy emphasizes that one of the chief requisites of any type of anesthesia is safety. He states that when a search is made for a substance to take the place of inhabation anaesthetics, it is necessary to take into consideration both their inconveniences and their dangers pulmonary hepatic, and renal complications. Polmonery complications are as frequent after operations performed under local anaesthesia as after those performed under general anesthesia. There are no anesthetics which are entirely local in their effects for when any anaesthetic is introduced into the body it becomes diffused and climinated While general anesthetics are theoretically toxic to the kidneys they have the advantage of being eliminated chiefly by the respiratory tract whereas local anaesthetics are eliminated chiefly by the urinary tract. The various antesthetics differ in their nature, their toxicity, and their affinity for certain tissues. As compared with the other types of anesthesia reviewed, general inhala tion amenthesia has at least three advantages. It induces a truly general anaesthesia, which includes loss of consciousness it is progressive and strictly proportional to the length and importance of the operation and it can be stopped immediately

Extracco Servic M D

Specht, K. Rausch, Brief and Induction Annasthesis Induced With Evipen-Sodium (Rausch-Kurz und Enkitungmarkose mit Evipen-Natrium) Leitrill / Chr. 1913 p. 242

Evipan-sodium is given intraveneously in a 10 per cent solution. It is rapidly broken down in the body and has a broad threshold of anestheris. The sensory and reflect centers are rapidly encluded whereas respiration and direalation are only alightly affected. The author has used orlan-sodium in no cases. No prenarcotic was given. As in avertin assemberia the dosage depends on various factors soch as the patient's body weight, age, see, constitution and filtens. The dosage indicated according to age and see and expressed in cubic centimeters per killogram of body weight is shown in the table.

In the cases of cachectic, aniemic, icteric, and obese patients, from 1 to a c.cm. are subtracted from the full dose, whereas in the cases of thin, resistant rationts and patients accustomed to aniesthetics.

Apr	Males		Temaha	
	Firtne	West	Room	- XX
10-15	0.16	0.15	015	0.14
15-25	0.25	0.14	014	0.13
25-40	0.14	0.11	0.12	10
40-55	013	0.11	0 11	0.11
55-65	0.11	0.11	0.11	0 10
65-75	0.11	01.0	0.10	0.00
Over 75	0.10	0.00	0.09	000

the total done is increased from 1 to 1 c.m. The greatest total done is 10 c.m. In greened, from 5 to 10 c.m. are given. After the patient is sound assepte injection is discontinued. The injection may be prelonged if necessary. Each of the first 4 c.m. should be injected in litteen seconds and each of the rest in ten seconds. The injection time therefore writes from one to two minutes. Ansesthesis results rapidly sometimes with deep yawning and some times with mild tremor of the muscle, but never with spasms or marked excitation. It lasts for from ten to fifteen minutes, massily jeen minutes. At the end of that time the patient is often wide awake, but in a third of the cases there is an after-alexp of from fifteen to thirty minutes. There is no period of a citation and onsully no post-aneathetic woulding or

other unpleasant phenomena.

Berides its use for raunch and brief anaesthrin, evipan-sodium may be employed as a preliminary anesthetic before the administration of ether for more prolonged operations. Definite ether exist in them occurs, but is not so marked as when other is used alone. In many cases the respiration is ability over and more superficial. The blood pressure drops from so to 30 mm. but after from five to ten minutes returns to normal. The pulse rate is somewhat increased. There are no accidents and no late site effects.

Carmona, L.: The Behavior of Certain Components of the Blood Plasma in Calcroform, Ether and Ether-Calcroform Amendmais (Il composinento di alcuni componenti dei plasma asagripto nella ciornattroni, eternatroni, and sella necesi etter-cloroformica). Ann. ital il citi 1933. Il

Although researches on the effects of chloroform and other anesthesia on the organism have been very numerous, practically none of them has dealt with the effects of aniesthesis of these types on the components of the blood plasms. Following a brief resume of the results of chemical and morphological studies of the blood in chloroform anesthesia Car mona reports experimental researches which be carried out on rabbits with regard to the total altrogen, fibrinogen, and non-protein nitrogen following both slogle and repeated periods of chloroform, ether and chloroform ether anestheria each hatha fifteen minutes. The rabbits were kept on a constant régime and three preliminary tests were made at ten-day intervals for each constituent. The anexthesis was continued for half an hour and repeated on four successive days.

The results, presented in tabular form show that there three types of anaesthesia cause more or less possible modifications in the total nitrogen, fibrinogen, and non-protein nitrogen. The fluctuations of the total nitrogen are irregular in all but are much more marked in angesthesia induced with chioroform alone or with chloroform and ether than in anges them induced with ether alone Fibrinogen tends to diminish in other angesthesis and to increase in chonform amenthesia and shows under variations is chloroform and chloroform-ether angesthesia than is other anneathesia. The protein nitrogen rises con siderably after the first period of chloroform and thloroform-ether anasthesia but after repeated simmistrations tends to return to its normal value. In other amounthouse it is increased in some cases and decreased in others but the changes are smaller less and, and of longer duration than in chloreform menthema. MARY ELIZABETH MORSE, M D

Italion, J. Rehalational Amesthesia. A Method of Utilizing the Recent Advances in Amesthetic Administration. Bru. M. J., 1933. 1 1097

In recent years the induction of anesthesia and the apparatus used for it have been greatly im proved However the apparatus still has objectionable features. The author has therefore devel oped a technique between the open drop and the compilicated apparatus method. He calla it rehalational amesthesis because it holds a piace between perhalation and rebreathing into a bag. In its simplest form the apparatus consists of a small cylinder of oxygen and a J size carbon dioxide spatilet strapped together from which tubes are brought to a 1 piece whence another tube leads the gases into the meals 4 -ox ether drop bottle with a Bellamy Gardner dropper and a modified Ogston mask. In the induction of anexthesis car respiration so that more of the anexthetic is absorbed.

The advantages of the author's technique are,

briefly as follows

The ether vapor is partially rebreathed and is warmed by the patient's own efforts
The induction of the anasthesia is simplified

and rendered less uncomfortable.

2 The maintenance of the angesthesia is smooth

4 The incidence of postoperative complications is diminished Grozer R McAcuer M D

PHYSICOCHEMICAL METHODS IN SURGERY

ROBBTOKSOLOGY

Masia A.; Clinical and Resettsen Study of Congenitral Styphills. Four Unusual Cases of Late Congenitral Styphills (Contribute disloc-radiologics also studie della lue congenita. Osservasiod chulchs rare nella lue congenita tardiva). Riferena nea 933, 211x, 5

In the last eight years the author has made clinical and recutem studies of about eighty cases of congenital sphillis. In this article he reports in detail four cases which he regards as rather unusual. Roentgen examinations were made of the heart and vascular system in these cases, but showed nothing

particularly abnormal

The first case was that of a woman thirty years of age who had uderated gummats of the cervix. At the age of six years she had nodular gammats of the soft paints and uvula and at the age of inheteen years she had two tumors of the frontal bone which were attributed to compenitud sypability and disappeared under antisyphilitic treatment. This case was unusual because ulcerated gummats of the cervix are uncommon in late congenitud sypability and because the sprochestes ormained localized in the external tissues, bones, and skin. There were no signs of viscorial syphilits. The patient had a child thirteen years of age which showed no signs of system's spring the state of the patient should be syphility.

The second case was that of a child ten years old who presented multiple gummats of the neck, the root of the nose, and the soft palate, and congenital

anophthalmos from sypbills.

The third case was that of a woman twenty two years of age who presented imbedlity from syphilitic meningo-encephalitis. At birth, there was a bullous eruption on the paims of her hands and the sokes of her feet and soon after birth abe had con validons. She had been mentally defective since birth, and at the age of seven years suddenly became totally load. The author believes it probable that ahe had syphilitic meningitis during lates uterine life. Under antisyphilitic treatment her general condition greatly improved, but sight and bearing were not benefited.

The fourth case was that of a woman twenty-two years of tap who was softening from inflammation of the frontal, ethnoid, and left maxiliary shuses. She had had chronic sinustis since the age of seventeen. The Wasserman reaction was strongly positive. The condition was greatly improved by specific treatment.

The author emphasizes the importance of syphilis as a cause of inflammation of the nasal sinuses. This was recognized by Fournier

AUTORICY GOM MORGAN M D

Niserniberger L.: The Resolutions of the Germas Society for the Study of Inheritance Concerning the Problem of Late Injuries from the Roemigen Rays and Their Consequences With Regard to Irradianton Therapy (De Establissing for contacts Coestlands in two Varietyspeksons for contacts Coestlands in two Varietyspeksons for contacts Coestlands in Consequence Roemigenstrables and the Folgen for die Scrabetherapia) Sursimitating, 1933, xiv post

The author discusses the conclusion of the German Society for the Study of Inheritance and the German Engenic Society that childran conceived after the constitute of receipter sterility may be injured in their germ plasm. As this conclusion may have both legal and social results, it is of importance for root geologists and genecologists to recognise the pos-

dbillites.

With regard to the criminal law aspect, the author cites the German law that when an abnormal child is born after the termination of menteen sterility and the physician is sued for bodily injury the out come of the suit depends upon whether the induction of the temporary roentgen sterility is regarded by law as malpractice Majoractics may be posished by imprisonment up to three years. According to the decision of the two societies, the physician may be sued also according to civil law as the conditions necessary for Hability for maloractics may be assumed by the court. As the results of the legal decision may be very important, the author warms especially all roentgenologists and gynecologists against inducing a temporary mentren sterilization. As the viewpoint of the law has been changed since the conclusion cited, he believes that when an abnormal child is born following conception soon after a therapeutic irradiation it will be essential in the future for the roentgenologist to protect himself by obtaining a written statement to the effect that, before the trradiation, he advised the woman of the danger of early conception.

In the second part of the article the author discusses briefly the possible social results of conception and birth following rountgen strrility

In conclusion he states, as he has done previously that the occurrence of late injury from the reentgen rays has not yet been proved. Wesserstra (G)

RADIUM

Staitel, E., Simon, S., and Johner W t The Clinical Importance of Secondary Beta Rays in Radium Treatment (Importance clinique des rayets lett secondaires en curiethérapie) Acis radial. 1913 ziv 217.

The authors believe that there is a tendency to over-estimate the importance of secondary mys.

The object of this article is to show theoretically that the importance of secondary rays differs materially amending to whether \ rays or gamma rays are med. In the use of \ rays the practical importance of the secondary corpuscular rays is negligible while that of the undulatory secondary rays increases andly with the atomic weight of the filter. In the one of gamma rays, all filters are practically equal so far as secondary undulatory rays are concerned although some influence may be exerted by the filter on the secondary corpuscular irradiation.

In photographic experiments and photometric measurements undertaken to ascertain the influence of primary filtration it was found that filters of me dism atomic weight emitted a minimal quantity of secondary beta rays. When considerable primary Simbon was used the importance of the beta irra diation emitted by the heavy metals diminished and occasionally became even less than that of bodies of low atomic weight. The methods of biological verifi cation were (1) demonstration of the harmlessness of secondary irradiation as regards cutaneous cryth ems and the conjunctiva of the eye, and (2) a study of the effect of the secondary beta rays on Drosophila

The juxtacutaneous application of metallic plates of varying atomic weight did not in any way influ ence the degree of cutaneous reaction produced by a honogeneous irradiation. When filters of medium atomic weight were used the mortality of Drosophila eggs killed was reduced to the minimum.

from the point of view of therapy the experi mental results lead to the conclusion that the use of secondary filters for transcutaneous irradiations is concessary and that for intratumoral irradiation, secondary filters of medium atomic weight (nickel er silver) are to be recommended EDTER S MOORE.

Whitman, W G Some Observations of the Effects of Radium Irradiation on Tissue Cultures. Am. J Cancer 1933 xvii, 931

The object of the experiments reported was to andy the effect of radium irradiation on normal theken fibroblasts and compare the effects of Irradi ation on tumor cells with its effects on macrophages in the same cultures using as a basis for the compan on the change in the number of mutotic figures in the first twenty-four hours following the irradiation.

The abroblasts from subcutaneous tiasue of six and seven-day chick embryos were cultivated in a described solution. Cultures of varying ages were andiated, but twenty four hour to forty-eight hour caltures were the most suitable. For studies of mitosa, the tumor cells from Walker rat sarcoma No 338 here used. These cells were cultivated in chicken phone and irradiated forty-eight hours after they vae explanted. The staining methods used are de scaled in detail. The radium emanation was en cosed in a glass bulb contained in a thin horizontal base cylinder 6 mm. in diameter In addition a base plate 0.5 mm. thick was used for filtration. Corenllps of soda glass 0.085 mm thick were em

ployed. The cultures were placed above and below the filters with the cover slips resting against the filters. Cultures and controls were kept in an incubator, experimental cultures being transferred to a sec ond incubator for irradiation.

Fibroblasts were given exposures varying from 5 to 1,800 mc. hr Essentially the same individual cel lular changes took place regardless of the amount of irradiation the difference being one of quantity rather than of quality The emanation bulbs varied from 20 to 450 mc. in strength. Cells which were in motion at the onset of the irradiation complete their division. No arrest of this process was noted in any of the cells studied. However beta rays from an enor mously greater amount of radium would probably have arrested mitosis already under way on account of the sudden application of damaging agents of very great intensity Early abnormal changes consisted in the formation of pyknotic mitotic figures and, as the cultures aged an increasing number of cells showing mitotic deformities. During the period of division some of the cells broke down

It seems fairly definite that the irradiation of cultures has a deleterious effect on the chromosomes themselves Abnormalities described are probably eventually if not immediately inimical to the life of the cell or at least to the continuance of the normal cell cycle. No special irregulanties of behavior of the nucleoli were noted. The nucleoli simply disappear in the early stage of mitosis and re-appear or re-form

in the daughter cells

Cultures of the rat sarcoma were characterized by large malignant cells with comparatively large nu del numerous small normal macrophages, and vary ing numbers of lymphocytes These surcome cells predominate in most cultures of the age used in these experiments. They are much larger than the mac rophages and are easily distinguishable. The cul tures were in good condition at the time of irradiation and were fixed at one, three, six, and twenty four hours after irradiation. The dosages used are shown in tables. Cytological variations were so common in non irradiated cultures that it was impossible to differentiate specific effects due to irraduation Changing of the culture media resulted in the destruction of many of the surcoma cells.

The effect of irradiation on the number of mitoses of the malignant cells as compared with its effect on the number of normal macrophage mitoses in the same cultures and in the number of non irradiated control cultures was next determined. The results are shown in detail in tables and by graphs. They demonstrate that the number of mitoses of the nor mal macrophages was proportionally more reduced by irradiation than the number of mitoses of malig nant cells. The percentage of initial fall in the mitotic count for all normal cells was greater for all three doses than was the initial fall in mitotic count for the tumor cells. On the other hand the normal cells started to recover after the first hour whereas the tumor cells continued to fall until the third hour The mitotic count for normal cells shows a gradual

decline after the sixth hour except in the case of the 50 mc. har design, while the miloric count for tumor cells continues to increase of maintains the sixthhour level. In general shape, the curves for normal cells resemble those found by Kemp and Juul in their studies of the effect of Imediation on fluoridation.

In summarising the author states that the normal fibroblasts show a characteristic fell and recovery in mitoric count after irradiation, depending on the domes and the length of the exposure. The cultures were exposed only to garoma rava. Cells in division at the onest of the irradiation proceeded in nor mel fashion. Abnormal mitotic frances were found shortly after the irraduation. Scattered, aberrant. and lassing chromosomes were also characteristic of the irreduced cultures. No demage to mitochondria. or nucleoil was observed. Rat sarcoms exposed to s. 16 and so me hrs. showed similar mornhological changes, but such changes occurred also in non irradiated cultures. Irradiated tumor cultures apneared unable to live if the medium was changed after the irradiation. The normal cells appeared to he more effected by these dosages than the tumor cells. The number of mitoses was proportionally more reduced by the irradiation in the normal cells than in the malignant cells. The percentage initial fall in the mitotic count was greater for all three days for normal cells than for malignant cells.

A TANKS LABROY M D

MISCELLANGOUS

Paterson R. Classification of Tumors in Relation to Radiosensitivity Brat. J. Relief. 913 vi, 218.

Different tiesucs react differently to the same amounts of irradiation. The basis of all irradiation treatment of tumors is the sensitivity of tumors to irradiation. Therapists have a general idea of sensitivity but it is empirical. The purpose of this article is to present a tentative classification of tumors according to their average radiosensitivity. Paterson says that it would be of extreme value if we could consider the treatment of whole groups of tumors instead of merely that of magic tumors. While irradia tion includes all forms of radiant energy Paterson discusses only \ rays and gamma rays. He says that sensitivity is difficult to define. The absolute measurement of the sensitivity of a tumor would be the physical measurement of the lethal dose of Irra diation for that tumor This is not yet practical. The term relative sensitivity" means the relationship of the lethal dose for a particular tumor to the lethal dose for some normal thane such as the skin. By "lethal dose is meant the amount of irradiation which causes permanent disappearance of the tumor

Patenson divides tumors into the following four groups: (1) radiosentifive growths, the lethal does for which is less than that for the akin, (2) epithe ilomata, or moderately sensitive growths, the lethal does for which is close to that for the akin, (2) adenocardiomata, which are moderately resistant and (4) radioresticant growths.

In one of the two chief methods of employing icrediation a given amount of irrediation is delivere to a considerable volume of both normal and shoot mal times indiscriminately by external (cradiation In the other method, a given amount of fradiation is built up within a sharply limited or localized area.

In the first method the X rays and the radium pack or bomb are the principal agents employed. By such method it is impossible to deliver to the tumor bearing area an irradiation intensity appreciably higher than that which can be tolerated by the skin. The procedure is therefore a "skin limited method. Localized irradiation with an intensity sharply felling off at the periphery is achieved by the use of radium interstitially or in close apposition to the errorth. By multiple cross fire it is possible to build un within a limited area an irradiation of bisher intensity than the overlying skin can endure. In method is inefficient

In the author a first errors of tumors are included a comparatively large number of sensitive neopleams, of which the best examples are the lymphosarcoms and the untreated rodent pleer. However it is believed to be safer to carry the treatment up to the limits of tolerance, thereby exceeding the lethal dose by a satisfactory margin as this is less serious than underdosing. True epithelial tumors require a higher intensity of irradiation. Lethal dosage lies in the region of the lethal dose for skin. To produce such intensities by external irradiation alone with out undue damage to theses is difficult or impossible in the majority of cases. Often the tumor bad has a lower relative sensitivity than the tumor and therefore is able to tolerate intensities which are sufficient to destroy the growth. Tumors belonging to this group may be attacked by localized freedlation which depends chiefly on the use of radium rays Those of the former group may be dealt with favor ably by external trradlation. When the tumor bed is complex, as in the emophagus, or sensitive as in the lung, the maximum dose which the bed will tolerate becomes less and the possibilities of therapy are greatly limited. For example, the mucous membrant and muscular structures of the tongue are compara tively registant, whereas a similar tumor in the giands of the neck cannot be treated successfully by any present-day method of irradiation because applica tion of the necessary dosage is rendered difficult by the skin and the proximity of vital structures.

The second group of tumors in the author's classification includes epithelial tumors of the cervix, skin, lip, and breast.

The tumors of the third group the adenocardnomata, react somewhat unsatisfactodly to irrafittion therapy. Iffin literalities are required to destroy them entirely. Success is not attained wire the tumor bed is resistant, as in carcinoms of the body of the uterus. In general, surpical treatmest seems to be ureferable to irradiation methods.

The fourth group of tumors includes the fibrorar come, the hypernephroma, and tumora more relat at than the bed in which they lie. However, even in the times temporary resolution may be obtained by imidation. The administration of repeated sail does of irraduation, called by Ewing "growthrestruct treatment is often of value in lessening the growth or causing it to become more benign Sofar the factors relating to sensitivity have been

istricsic or nathological and histological in nature

Estimic factors may cause either an increase or a dermes in sensitivity. These factors are shown in a tible. Chief among them are poor nutrition sepsis, and previous irradiation. Sensitivity is influenced trushly by optimum duration of the treatment. In most tumors this factor lies between seven and ta day. The results of the injection of various substances, such as lead and glucose, in an attempt to because the sensitivity of tumors are doubtful. Also

doubtful is the value of pressure on the skin during X ray treatment. Attempts to increase the sensitivity of a tumor by increasing the rate of its growth are associated with risk although they may be sound theoretically. In experiments on cancer bearing mice, Mellanby brought about a definite acceleration of the tumor growth by feeding fresh liver.

In conclusion Paterson says that research on radiosensitivity should be directed to determining (1) accurate critera for the exact pathological classification of tumors in relation to radiosensitivity (3) a method for the physical determination of the exact quantity of irradiation delivered to the cell and absorbed by the cell (3) the exact lethal dose for each type of tumor and (4) methods of delivering the lethal dose for each type of tumor

A. JAMES LARKIN M D

MISCELLANEOUS

CLINICAL ENTITIES—GENERAL PHYSIO-

Paroll, G: Familial Achondroplasia and Its In heritance (Dell acondroplasia familiare e della sua criditarietà) Rev ital di ginec 1933, xv 10.

The author reports three cases of familial achon and rerieva cases of schondroplata reported in the literature to support his theory that the condition bereditary and transmitted exactly according to the mendelian laws. If e believes that the dystrophic character is recessive and the normal character is dominant. According to this conception, achondroplata may remain latent for many generations and appear unexpectedly in the propeny of apparently normal individuals.

The various theories of the cause of achondroplasis—toxic, infective, bormonal, samiotic, and racial—are reviewed and statistics based on cases collected from the literature are presented

A. Lorra Rose, M.D.

Kreiner W: A Case of Hamophiloidia (Ein Fall von Hamophiloidie) Denitche Zische f Cher 1935 cexxxix 174

Hemophilodds is one of the rarer hemorrhagic distenses which occur during the age of puberty in makes and females and are often first manifested by bleeding from the nose which is difficult to control. Other manifestations of hemophilodds are conditions resembling states of collapse which are not refleved by durus acting on the heart.

In the case reported by the author the blood count revealed a decrease in the erythrocytes to a million and an increase in the leucocytes to 10,000. The coagulation time of the blood was retarded. The history indicated alternate periods of decline and recuperation Frequently the periods of decline followed slight bleedings which were not sufficient to explain the seriousness of the condition. The agera vation was therefore ascribed to a kind of hemolytic crisis. After three blood transfusions, which were administered during phases of collapse, convalescence occurred slowly with improvement in the condition of the blood In the author's opinion the transfusions were beneficial not only because they replaced the blood lost, but also because they supplied normal blood with all of the constituents re guired by the body

Lauwers, B.: Intra Arterial Injections in Cancer (Retherches sur les injections intra-artérielles dans la cancer) Res. leige à rc. méd., 932 v 377

The treatment of cancer with metals is reviewed.

In order to avoid the two extremes of ineffectiveness.

and injury by such treatment the author devised the method of hijecting metals directly into the regional arteries. To be effective the metal must be retiated in the tumor tissue. Lauvers found that into tumoral retention could be obtained by hijecting metals in suspension. The fine particles passed through the capillaries of the normal tissoe and odded in the small vessels at the periphery of the tumor. From there they passed into the tumor tissoe. A to per cent suspension of cobalt oxide in distillated water was used. Ehrlich believes that cobell has cancersictle properties. As it is black, it can plemented the cobalt oxide treatment with increaing does not brightness.

Malignant glands, which could not be reached by this method were reached through the lymphatics by giving subcutaneous injections of a fine emulsion of thallium oleste in the vicinity of the rands.

The author reports ten cases in which this method of treatment was used. The immediate recent was a remarkable retrogression of the tumor. It is too easy to draw conclusions reparating the late results. Soci conclusions must be delayed at least five years. The terrogression of the tumors was doubtless due partly to inchemia, but the inchemia was accompanied by general mobilisation of placeportes and a considerable increase of the connective issue trabectles around the tumor. The author has never seen cellular reactions companied by inside the property of the property and the property in the property of the property

While Laurens does not believe that the metals used have a specific cancer-destroying action, be regards the method as of great value since, by mease of it toxic drugs can be brought into immediate catect with the extence cells without causing lajory to the nations.

Americ Coss Mossau MD

Hints, A.I. Results of Operative and Irreflation
Treatment of Mellegant Tumors Based on
Twenty Years Observation at the Berks Uniresulty Saysical Cinite and the Resultsive
Radium Institutes of the Cinite. In recover
to the Committee of the Cinite of the Committee
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In order to increase the frequency of cure in cases of curcinoma it is necessary to determine what cases have been truly healed clinically and the means by with this result was statismed. Only methods which breachered statistically demonstrable permanent one on he generally recommended. The statistics hereith presented are based on the enture malignant tome material of an institution which uses operative siveliasiradistion treatment. Tumors of all groups, so tooly surpose, but also skin and gynecological tonor, were treated. The author summarizes the most presented at the 3 last seadons of the German Surgical Society which dealt with the results of the treatment of sarrows and of internal and extrain cardooms in the last twenty years, a period when imidation was used in addition to, or instead of operation. The total number of cases treated damp this period was approximately 5 500. The type of tumors are shown in Table 2.

TABLE I TYPES OF T	UMORS	
-	Period	Cases
te circinome inclusion of the immale broast inclusion of success membranes and internal	19 1-1931 19 1-1930	836 804,1
the date of the state of the st	1914-1930 1914-1939	\$4,\$ \$00,1 \$4,5

Minery two per cent of the cases of sarcoms and of per cent of the cases of carcinoma are reported. The percentage of successful results was determined from the number of patients who survived for five years or longer and the number who were treated fre or more years previously Cases not followed m and cases of death from intercurrent diseases or od sge during the first five years were counted as fallures. The calculated percentage of cures is therefore the minimum figure. The percentage of eaths due to causes other than mangnancy may be determined by referring to the mortality of the teneral population at the average age of the pa tents treated. The incidence of successful results must have been somewhat higher than that calcu lated, since among the cases that were not followed spaces permanent cures may be assumed. Only in coss of adin cancer is it possible with sufficient cer tainty and (because of the not-infrequent long sarrival even in untreated cases) necessary to base the statistics on the number of patients remaining bee from symptoms after five years as well as the number surviving after that length of time. The shotste number of patients who survived for five years or more and the incidence of successful re salts in the cases treated five or more years ago are summarized in Tables II, III and IV

In the cases treated by operation the primary morality (death within four weeks after the operation) was only 1.47 per cent in those of carcinoma of the sin and 2.6 per cent in those of carcinoma of the sin and 2.6 per cent in those of carcinoma of the tenals breast. In cases of sarcoma it was 12.1 per cent, and in those of carcinoma of the nucous accounts of the nucous carbonares and internal organs it was 24.5 per cent. The total average mortality for all of the malignant tenans was 0.76 per cent.

On the basis of this large number of cases which were under observation for a long period of time and represent the results of surgical and irradiation treat

TABLE II -- CASES WITH SURVIVAL OF FIVE OR MORE YEARS

11/11 02 3		LINE		
Condition	Opers tion	Irradu. tion	Total	Per cent
Sercome and sercometous deger	r			
eration				
Soft tisetes.	43	T,	104	1 9
Bones.		3	10	po 3
Tetal	62	15	14	31 5
Internal carcinoma				
Remarking tract.		6	78	3 4
Urhary tract	_6	6		25 *
Digestive tract.	₽o.	71	151	7
Genetal tract.	10	6	16	z t
Total	95	99	197	20 4
Carcinoms of skin	_			
l'aca.	₽ o	\$04	254	63 6
Trunk, extremities, ispes car	г			_
CIBOURA.		22	46	40.4
Total	τ 4	36	110	60 š
Carcinoms of francis breast				
Operable	1 1	7	191	37 4
Laoperable		4	4	
Total	. 5	170	101	83 3
Grand total	180	653	1,04	13 7
Not including as cases operated	upon bel	ore rots	which as	e greened
with the cases of correctors				

with the cases of recurrence.

TABLE III.—CASES OF SKIN CANCER WITH FREEDOM FROM SYMPTOMS FOR FIVE OR MORE YEARS

Face center Canter of trusk, extremities, known cerchoons Total	tion	irraille tion 17	Total 150	Fer test 15 o
	607	111) 6	1) 101	3 2 35 4

TABLE IV —INCIDENCE OF FIVE YEAR SURVI-VAL IN CASES TREATED BY PRIMARY OPER ATION, PRIMARY IRRADIATION AND PRO-BHYLACTIC IRRADIATION*

PHYLACTIC IRRADIATIO	N-		
		Time.	ANT CHICK
	Total		Per cent
	aumber.		of total
	treated	No.	BORD SEE
	Lunca	2100	*******
Sercome and sercometous degeneration		133	11.4
Primary operation.	365		10.0
Prophylactic irradiation.	104	3	
Primary irradiation.		3*	34 0
Carcinotes of stracous membranes at-	4		
internal organo		160	
Primary radical operation	60		#3 5
Prophylectic irradaction.	54	16	£9 6
Primary irradiation.	877	21	9 5
Carcinoma of pitin			
Primary operation Survival		_	
Bervival	161	164	6,8
	ad t	*	36 .
Primary fractistion			
Survival.	158	15	60 €
Freedore from systems	155	01	35 6
Prophylactic fraciation			
Servival.	14	Ţ	45 8
Freedom from symptoms	94	6	15 0
Carcinome of female breast			
Permaner (mercation)	606	900	30 5
Prophylactic bradiation.	181	97	33 0
Primary bradlation.	ÓS	- 4	-6 x
All malignant growths			
Printary operation.	1,001	656	37 7
Prophylactic irrediation.	343	50	43.5
Primary irradiation.	140	110	اقت
Total -	1,007	1,043	13 7
10024			
Most of the cases treated by primary fo	(sum(100)	acre in	A

Most of the cases treated by primary bradiation were inoperable, and is most of those given prophylactic bradiation the prognosis was re garded as unfavorable at the time of operation.

ment, 4 important questions on the treatment of carcinoma as well as the indications for it are answered as follows

1012. xvl. 676

A case of tuberculous fridocyclitis treated with tuber colin improvement maintained for nine years. I. I. Payfa Rev. oto-neuro-oftabaol v de cinar neurol. 1013 viii.

Tubermiods of the fris and ciliary body, and detachment of the retina. Rev. oto-neuro-oftalmol. v de circus neurol...

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